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Senior Systems Architect, Motorola

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CONTENTS

08.02.04

Covering the Waterfront

In the Technology section: IT is playing a growing role in protecting the nation's ports and the more than 2 billion tons of cargo that pass through them annually. But many projects are slow to roll out, and port security remains a work in progress. **Page 19**



Prudent Pruning

In the Management section: IT applications grow like weeds, and unchecked growth can lead to sluggish performance. Smart CIOs know that selective pruning can rejuvenate your systems. Here's how. **Page 31**

NEWS

- 4 **Microsoft delays** releases of Windows XP Service Pack 2 and Service Pack 1 for Windows Server 2003 because of security work on XP.
- 5 **Two large supercomputers** bought by the U.S. Navy and NASA demonstrate that the market for high-powered systems is growing.
- 5 **Sun plans** to make its Java Enterprise System available for Windows and HP-UX by year's end.
- 6 **MCI increases** performance guarantees for its IP network users in a bid to retain their confidence as a possible buy-out looms.
- 8 **Banks prepare** to fight an information-sharing provision in a California privacy law.
- 10 **Cellular, Wi-Fi convergence** comes closer with the arrival of new mobile devices.
- 10 **Red Hat broadens** its offerings beyond Linux by launching a Java application server.
- 11 **Vendors slow audits** of software licenses, partly in response to increased self-examination by customers.
- 11 **Ongoing compliance** needs under Sarbanes-Oxley will drive new IT investments by users, analysts predict.
- 43 **The call for an e-voting paper** audit trail is renewed by some Democrats at the party's national convention.

TECHNOLOGY

- 22 **Emerging Technologies: Ultrawideband: A Better Bluetooth.** UWB offers huge bandwidth over short distances, but regulatory burdens and a fiercer standards battle could slow its introduction.
- 24 **QuickStudy: Form Factor.** Form factor refers to the overall dimensions and component layout of a device—in other words, its physical size and packaging.
- 26 **Security Manager's Journal: Singing the TLS Protocol Blues.** Roger Folt's effort to provide secure e-mail using Transport Layer Security runs into one stumbling block after another.

MANAGEMENT

- 28 **Roll Your Own.** Why do some companies continue to develop their own software applications, even when an increasing number of off-the-shelf packages could do the job? We look at some IT shops that are bucking the trend toward off-the-shelf and learn what's in it for them.
- 32 **Think Tank.** Why call centers need to be ready for the camera-phone generation; ups and downs in IT services spending; and how the IT economy is "stuck in first gear."
- 33 **Career Watch.** How to attract and retain women in IT; where and where not to recruit top talent; and the CIO/CPD connection.

OPINIONS

- 6 **On the Mark: Mark Hall** notes that open-source boosters and CIOs don't always speak the same language and that Linux 2.6-based servers are coming.
- 14 **Maryfran Johnson** is surprised that high-level thinking about IT direction is rarely done well, if it's done at all.
- 14 **Don Gillmor** thinks that blogs, even ones written by executives, can add a human voice to corporate Web sites.
- 15 **Pam Fox** sees another side to the feel-good story about Microsoft returning billions of dollars to investors.
- 27 **Paul A. Strassmann** also takes a look at Microsoft and concludes that users would be wise to reduce their dependence on its software.
- 34 **Paul Otten** notes that as we move higher in the organization, it becomes more important to find the right questions than the best answers.
- 44 **Frankly Speaking: Frank Hayes** asked readers what the CIO of California's Contra Costa County could have done to keep sensitive e-mails from being misrouted to Sweden. Plenty, it turns out.

DEPARTMENTS/RESOURCES

- At Deadline Briefs 4
News Briefs 5
Letters 15
IT Careers 36
Company Index 42
How to Contact CW 42
Shark Tank 44

ONLINE

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Battling Cybercrime: Stories From the Digital Front

SECURITY: This excerpt from *High-Tech Crimes Revealed* details how IT pros helped New York City police investigate a theft and pornography case. **QuickLink 47607**

A Matter of Life or Death

STORAGE: Consultant Steve Duplessie discusses the roles—both good and bad—that storage technology played in his cancer treatment. **QuickLink 46437**

A Bit of 'Cook Heaven'

MOBILE, WIRELESS: Computerworld Web developer Peter Smith got his hands on the new Airport Express wireless access point and was surfing and streaming music before he knew it. **QuickLink 46417**

Blogs at the Convention

GOVERNMENT: The question "Are bloggers real journalists?" misses what's most interesting about new media in politics, writes online managing editor Sharon Machlis. **QuickLink 46473**

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Knowledge Centers **QuickLink 47670**
The Online Store **QuickLink 47620**

AT DEADLINE

Microsoft Releases Patch for Browsers

Microsoft Corp. released an out-of-cycle software patch to fix three security holes in Internet Explorer, each given a severity rating of "critical." Microsoft, which typically issues patches monthly, urged users to install the new one as soon as possible because of potentially serious risks posed by the flaws. One hole has already been used in an attack called Download.Jest that was launched by hackers in June.

EDS Sees Bigger Loss on Navy Pact

Electronic Data Systems Corp. increased this year's projected loss on its \$6.8 billion IT modernization contract with the U.S. Navy, citing order deferrals and lower-than-expected payments. EDS also said it has agreed to end another contract with an unidentified corporate user. EDS reported a second-quarter profit of \$270 million on revenues of \$5.24 billion, an increase it lost \$76 million from an operating standpoint.

SCO Group Seeks to Revoke Unix Name

London, Utah-based The SCO Group Inc. confirmed that it has applied for a trademark on the name "Unix System Laboratories," which would revive the name of the former AT&T Corp. unit that once owned the rights to Unix. But The Open Group consortium said it would object "arrogantly" to SCO's application on the grounds that it would conflict with the consortium's Unix trademark.

Short Takes

IBM said it's buying Cyano Systems Corp., an Oakland, Calif.-based vendor of performance monitoring tools for Web-based applications. — HEWLETT-PACKARD Co. today will announce a disk array that can support SCSI and Serial ATA drives behind a single controller.

Microsoft Confirms More Product Delays

XP SP2, 64-bit Extended Systems slated for 2005

BY CAROL ALVINA

MARKETING resources to finish off the security-focused Service Pack 2 for Windows XP is having a trickle-down effect on other Microsoft Corp. products.

The company confirmed last week that the first service pack for Windows Server 2003 is being delayed to the first half of 2005. Just weeks ago, the vendor had said it would be ready in the second half of this year. Also being delayed to the first half of 2005 are versions of Windows Server 2003 and XP designed to run on Advanced Micro Devices Inc.'s 64-bit Opteron chips and Intel Corp.'s Xeon EM64T processors. Service Pack 1 for Windows Server 2003 forms the basis of the new Windows for

64-bit Extended Systems releases.

A Microsoft spokeswoman said the development cycle is driven by quality "rather than an arbitrary date" to ship products. However, Microsoft today plans to release a beta for the AMD and Intel chip sets, according to Dennis Oldroyd, director of the Windows Server business group.

Several IT managers said the delays won't affect their companies, although some of them expressed concerns about the pattern that Microsoft is increasingly demonstrating. "It won't affect us, but if there are fixes that reflect additional security/error correction, I would like to have it now — not tomorrow," said Zeke Duge, CIO at Smart & Final Inc. in Commerce, Calif.

"We are always anticipating increased security fixes for Microsoft products. While we agree that a solid solution is better, and we are willing to wait, there are always con-



I don't like the idea that new stuff that I was not waiting for is being sprung on me. More fluff, less meat.

ZEKE DUGE, CIO
SMART & FINAL INC.

cerns about weakness in the operating system," said Les McCarter, IT infrastructure and operations director at Hawaiian Electric Co. in Honolulu.

Charles Emery, senior vice president and CIO at Horizon Blue Cross Blue Shield of New Jersey in Newark, said he'd like Microsoft to start hitting its stated target dates because

it would help his department to plan more efficiently.

So far, companies with exceptionally large databases have been the primary users of 64-bit applications, and the delay isn't expected to bother such companies because they've already sought out other 64-bit systems. Bob Cronhart, director of infrastructure at Premiers Blue Cross, said the Mountlake Terrace, Wash.-based insurance company uses servers from Unisys Corp. to run its 64-bit SQL Server data warehouse.

Oldroyd said Microsoft has yet to see mainstream adoption of Windows for 64-bit systems but expects that to happen within 12 to 36 months. "We see a lot of evaluation from customers now," he said. "They want to figure out where they can use it."

One Microsoft product update that did ship last week was Service Pack 1 for Office 2003. The new edition bundles not only bug and security fixes but also feature enhancements for OneNote (such as improved integration with Office) and InfoPath (including enhanced support for managed code, digital signatures and form-sharing via e-mail).

Mixed Feelings

But users have mixed feelings about adding features in service packs, which have historically been restricted to bug and security fixes. Cronhart said he views it as a positive option to deliver pockets of features earlier to customers so they don't have to wait for major releases.

"If the features are fully tested, I see no reason to wait," Emery said.

But Robert Rosati, CIO at Werner Co. in Greenville, Pa., said he doesn't like the trend. "If Microsoft wants to add new features, they should call it something else — perhaps 'feature pack.' Service packs should just fix bugs and security issues," he said.

"I don't like the idea that new stuff that I was not waiting for is being sprung on me," Duge added. "More fluff, less meat." **Q 48336**

Microsoft Scant on Longhorn Specifics

REIMOND WASH

Microsoft's chief financial officer, John Connon, last week talked up the "innovative pipeline" that will ensure that new products and technology keep rolling out in the future.

And "future" was the operative word at the annual financial analyst meeting hours when it came to the next major version of Windows, because that was the extent of the details Microsoft provided about the final ship date for the release, code-named Longhorn.

"We've made really good progress in the last year. The next milestone for us is getting the next beta out sometime next year, and that'll be the point at which the feature set and the schedule

will really be pretty much locked down," said Bill Gates, Microsoft's chairman and chief software architect. "It's a release that's driven by the breakthrough features, and we'll have a strong sense of exactly what gets in and what the schedule looks like as we get that beta out sometime in the next... well, next year sometime."

Gates didn't say the beta would be released in the first half of next year, as the company had said prior to last week. If the beta should ship to the second half of 2005, that could have a snowball effect and push the product's final ship date beyond the 2006 target that the company has bandied about.

"It's a big release, and pushing

together that many pieces in an integrated fashion, it's bigger than anything we've ever done," said CEO Steve Ballmer. "It always let our people [that] relative to our scale, it's a lot more like the Windows 1.0, maybe 3.0, than anything we've done before. It's a whole new development platform, and getting the whole new development platform done is harder than just making incremental improvements in user and administration features. We're working hard at it."

— Carol Silwa

MORE ON LONGHORN

Microsoft says it won't release core Longhorn development sources.

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NASA, Navy Buy Massive Supercomputers

Market is growing for high-powered systems, IDC says

BY PATRICK THIBODEAU

U.S. government agencies announced purchases of two large supercomputers last week, including a massive 10,240-processor system for use by NASA that will likely be ranked among the world's most powerful computers.

The NASA system, from Silicon Graphics Inc., is based on Itanium 2 processors running Linux. The other system, an IBM supercomputer purchased by the U.S. Naval Oceanographic Office uses 2,944 PowerPC processors and runs IBM's AIX version of Unix.

The Navy declined to disclose the value of its deal with IBM. NASA's system will cost

about \$50 million, somewhat of a bargain price because Intel Corp. and SGI, among other vendors, will be studying the system as part of a research agreement, a NASA spokesman said.

The two sales may prompt IDC to slightly increase its high-performance technical computing market numbers in its next forecast, said Chris Willard, an analyst at the Framingham, Mass.-based research company.

IDC last week said that the market for systems used in research and technical computing grew 14% to \$5.6 billion last year and will keep growing at an annual rate of 6.5% through 2008, when the market is expected to reach \$7.6 billion. Commercial users are typically in the automotive, pharmaceutical, and oil

and gas industries.

But the market for the largest systems, such as those purchased by NASA, is due to grow only 2% annually until 2008, from \$771 million to \$849 million. "There is only so much money the world is willing to spend on this class of

computers," said Willard.

The NASA system, which will be used for space exploration and global warming research, is a very-large-scale cluster, made up of 512-processor systems with shared memory and a single instance of the Linux operating system.

InfiniBand

I/O technology is being used to connect the 20 512-processor systems that make up the supercomputer, which will be housed at NASA's Ames Research Center in Moffett Field, Calif. It's expected to be operational in November.

The Navy's

IBM supercomputer is a cluster of 304 IBM eServer p655 systems. It's slated to go online in September and will allow the military to run larger and more detailed weather and ocean models, including one that depicts the earth's surface. The supercomputer will also be able to handle more disparate data generated by buoys, satellites and other sources, said Steve Adamec, director of the Naval Oceanographic Office's Major Shared Resource Center at the John C. Stennis Space Center in Mississippi.

U.S. government agencies tend to buy a variety of supercomputing systems, and Stennis Space Center, where the IBM system will be housed, is indicative of that diversity. In addition to running older IBM systems, the center has systems made by Cray Inc., Sun Microsystems Inc. and SGI.

Q 46525



The 50 supercomputer at NASA is a 3668 high-performance computer at a 3.6 million dollar cost.

Sun Aims to Attract HP-UX, Windows Users to JES

Some users hail pricing model; others not so sure

BY PATRICK THIBODEAU

In an effort to broaden its reach as a middleware vendor, Sun Microsystems Inc. plans to make its Java Enterprise System available on Windows and Hewlett-Packard Co.'s HP-UX by the end of the year.

Sun's pricing model for the integrated software stack of 14 back-end services — \$900 per employee per year — is particularly appealing to companies that provide hosting services to large numbers of external users. Canada's Saskatchewan Telecommunications Holding Corp., which has about 3,800 employees, is one example.

Curt Smith, general manager of the Regina-based telecommunications provider, said the pricing model allows him to provide JES-based services such as messaging and calendaring functions to ex-

ternal customers on a hosted basis, without having to pay additional software-licensing costs to Sun. Smith's cost remains fixed based on the number of employees at his company, so external customers can tap into JES services at no extra charge.

Smith said that his company was attracted to JES because it provided integrated and tested services, and the pricing model is an added benefit because it fits his costs. "The price works for us, and the model works for us," he said.

But that isn't true for *The Atlantic Journal-Constitution*. The newspaper is a Sun hardware shop but is using BEA Systems Inc.'s Web applications server.

Bruce Bowles, a technology manager at the newspaper, said he met with his Sun representative about six months ago and discussed JES. Bowles said he asked how the vendor's per-employee pricing would account for all of his

part-time workers, who bring his workforce total to about 10,000 people, but he never got an answer.

A Sun spokeswoman said that JES pricing applies only to full-time employees, not part-time or contract workers.

The pricing model for the bundled applications "is a great idea, but that pricing model is not necessarily going to work for every business," said Bowles. Regardless, he added, "I'm not going to replace my investment in BEA."

JUST THE FACTS

Java Enterprise System

■ **STACK INCLUDES:** Web and application services, network identity services, portal services, communication and collaboration services, availability services, security services

■ **SUPPORT:**

Current: Solaris on Sparc, Opteron and Xeon, Linux

By end of year: Windows, HP-UX on PA-RISC

■ **PRICE:** \$900 per employee per year

Analysts said Sun had no choice but to extend its JES model to include support for Windows and HP-UX. The stack currently operates on Solaris and Linux systems, and Sun is considering making JES open-source.

Sun decided to port to other operating systems if they were ever going to be a serious contender in the middleware space," said Shawn Willett, an analyst at Current Analysis Inc. in Sterling, Va. The ability of JES to operate on other systems is "pretty much a requirement for large corporate sites, who can't be running Solaris everywhere," he said.

One JES user, Fotis Karonis, director of IT and telecommunications at the Athens International Airport in Greece, is running Solaris systems on 64-bit Sun hardware. Karonis said he sees both advantages and disadvantages in running JES on Windows systems.

Advantages include lower-cost hardware, leveraging the existing Windows expertise of systems administrators, and uniformity in hardware and operating systems administration, he said. But among the

disadvantages are duplicate technical support in running JES in two environments and Windows security concerns, Karonis added.

Karonis said the stack is meeting his expectations. "JES offers a rich and open development environment where we can integrate most of our airport-specific applications and systems," he said. Regarding making JES open-source, Karonis didn't seem to think it would matter. "JES is already open enough for developers," he said.

Whether Sun's pricing model makes sense for users depends on a number of variables, including which applications they use in the middleware stack, said Thomas Murphy, an analyst at Meta Group Inc. in Stamford, Conn. If an IT shop is interested only in Web development tools, for instance, then it may want to go with IBM's WebSphere or use the open-source Apache Tomcat.

In any case, Sun's JES pricing model does "shake up the market" and is something IT managers should consider, Murphy said. Q 46521

BRIEFS

Insurer Hands Off Apps Work to CSC

Zurich Insurance Co. said it's outsourcing application development and maintenance work in the U.S., the U.K., Switzerland and Germany to Computer Sciences Corp. About 1,600 IT workers will be shifted to CSC into this year and in 2005 as part of the deal, which is valued at up to \$1.3 billion over seven years. Last fall, Zurich outsourced PC support to IBM and signed Equant NV to manage voice and data networks.

Nortel to Announce Additional Cutbacks

Nortel Networks Ltd. plans to announce more cost-cutting actions later this month, along with preliminary financial results for this year's first and second quarters. Bill Owens, president and CEO of Brampton, Ontario-based Nortel, said he still expects revenue to grow faster than the networking market this year. But the company isn't meeting its operating cost targets, Owens added.

Design Snafus Must End, Says Intel CEO

In an internal memo, Intel Corp. CEO Craig Barrett wrote that the chip maker needs to do a better job of bringing products to market. The memo, dated July 21, followed a series of design problems and delays. "This is not the Intel we all know, and that is not acceptable," Barrett wrote. But in another delay, Intel said it's postponing shipments of a 4-GHz Pentium 4 by up to three months, to the first quarter of next year.

Short Takes

MICROSOFT CORP. released a second beta-test version of its delayed SQL Server 2005 database. ... The European Union's second-highest court isn't hearing data of Sept. 30 on Microsoft's request that antitrust remedies imposed in March by European officials be suspended while it appeals.

ON THE MARK

HOT TECHNOLOGY TRENDS, NEW PRODUCT NEWS AND INDUSTRY GOSSIP BY MARK HALL



Open Source Boosters Lack ...

... a full IT vocabulary when chatting up CIOs. That's what Robert Lefkowitz told an audience of nearly 2,000 hackers at the O'Reilly Open Source Convention (Osocon) in Portland, Ore., last week. Although Lefkowitz is vice president of enterprise data, systems and architecture at AT&T Wireless Services

Inc. and dresses like a natty Wall Street executive, he's got lots of credibility with the open-source crowd, given his history with open-source at AT&T, Merrill Lynch and elsewhere. Plus he's got a cool online handle, R0MEL (pronounced "Rommel"), that his admirers used relentlessly at Osocon. He argues that when a CIO is thinking about the "source" of a corporate application, he's not just considering endless screens of C++, Java or other languages typed by a programmer. The CIO is also thinking about the application requirement documents, modeling work, validation procedures, testing, administration and much

more. He cites the book *Software Assessment, Benchmarks, and Best Practices*, by Capers Jones (Addison-Wesley Professional,

2000), which shows that less than one-fifth of an application's effort is made up of code. "Source doesn't mean code," says Lefkowitz. "In fact, the whole movement in software engineering is away from code to more abstract thinking about the application." In effect, he says, a CIO looks at an application like a meal, the preparation of which involves a kitchen, utensils, a recipe and ingredients. But all the open-source advocates see are the ingredients. Lefkowitz suggests that if open-source proponents can learn the CIO's lingo, they will better advance their cause in the data center.

Novell's Enterprise Server 9 Draws ...

... big crowds of hackers at Osocon. They wanted to see what will likely be the first release of an enterprise-class server software with the Linux 2.6 kernel. As yet unannounced, but widely expected to ship in the next two

2,000
Number of tests
in Linux kernel
2.6 by IBM

months, Enterprise Server 9 for multiprocessor Intel-based machines gets coos and aahs from Linux lovers for its nonuniform memory access technology, which makes the computers exceptionally fast. Linux aficionados also give high marks to the stability of the beta now in the field and the improved security features. Novell Inc. in Waltham, Mass., is certifying third-party software on its SUSE Linux 2.6 release. Once enough applications have been blessed, expect some big news.

Microsoft Pushes Middle Ground ...

... in the open-source debate. Jason Matsumoto, director of Microsoft Corp.'s shared-source initiative, points to two trends that he hopes will bring a happy middle ground for IT users who like the idea of open-source products but still worry about who's ultimately responsible for the code. First, Matsumoto says, virtually every major vendor, including his company, is contributing to the open-source movement. He claims that Microsoft's shared-source programs and open-source work so far are "just the tip of the iceberg" and that much more will be coming. He also gives credit to IBM, Sun Microsystems Inc., Apple Computer Inc., Real Networks Inc. and others that are, to varying degrees, releasing proprietary source code into the hands of users. The second trend he highlights is that open-source developers such as MySQL AB, Red Hat Inc., Zend Technologies Ltd. and others are building profitable businesses around specific open-source products. He calls the two-

pronged trend a "move to the middle where the value is" for both users and vendors. He does acknowledge that it's IT's "voting with their pocketbooks" that's forcing this shift to the middle ground by vendors. So vote early and often, if you want to find more goodies in the middle.

Wyse Readies Linux Thin Client ...

... based on the hot new 2.6 kernel of the operating system. The S105SE from Wyse Technology will ship early in Q4 and cost you a mere \$399. It's the first thin client for the new Linux kernel, and it's the first using a chip set designed for thin-client Linux from Advanced Micro Devices Inc., claims Mike DeNeffe, a senior director at Wyse. DeNeffe says the Linux thin-client market is a "growth opportunity" for the company, and the S105SE will be added to its other Linux thin clients, the S455 and S125. The new machine runs twice as fast as its predecessors and improves video performance, according to the San Jose-based company. Junaid Qureshi, a Wyse senior product manager, boasts that his company has added thin-client features such as seamless configuration to the S105SE 2.6 kernel. That means IT administrators don't have to set up each machine on the network because each S105SE auto-discovers its server and configures itself. ☐ 48506

Wyse S105



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application,
says author
Capers Jones

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MCi Ups Performance Pledges to Retain Users

Guarantees faster transmissions on IP network as possible buyout bid looms

BY MATT HAMBLEN

MCi Inc. last week announced new performance guarantees for users of its IP network, another in a series of network services enhancements that the company is promising to its business customers.

The continuing effort to boost customer confidence in MCi's services comes as the company faces a possible buyout bid by Leucadia National Corp. On July 12, MCi said it had received a notice from Leucadia that the New York-based investment firm intends to seek clearance from federal authorities to buy a majority of MCi's common stock. Leucadia officials wouldn't com-

ment about the company's plans last week.

Colleen Boothby, an attorney who represents dozens of large companies in contract negotiations with telecommunications carriers, said the MCi users she works with don't appear to have any plans to abandon the vendor. But, she added, some do wonder if the buyout proposal could spell the end of MCi as a separate company, which could result in less competition for network services contracts.

"The big end-user concern is whether... MCi and AT&T will exist in a year or two," said Boothby, who works at Levine, Biazack, Block & "Boothby LLP in Washington. "Every day, it looks more like-

ly that they'll be gobbled up." She said MCi's ability to keep service levels high will determine whether the company, which emerged from Chapter 11 bankruptcy protection in April, can retain customers in the coming months.

Nortec Inc. in Providence, R.I., has another year left in a two-year, \$4 million contract under which MCi provides network services to about 10,000 employees at 35 locations in the U.S. Gary Rosen-

berg, director of telecommunication services at Nortec, said MCi's service quality remained high throughout the bankruptcy process.

Rosenberg added that he has seen a marked improvement in MCi's billing, which previously was problematic. But the Leucadia move "puts MCi in play, and eventually somebody will gobble them up," he said.

Getting Better

An IT manager at a large MCi customer in the transportation field said the possible buyout "doesn't have us too worried right now." The user, who asked not to be named, said he experienced service problems

with MCi last year but has seen "a pretty good turnaround" in recent months. The improvement has been encouraging enough for his company to consider giving MCi part of its future network services business, he added.

MCi's new Internet service guarantees include reductions in transmission latency worldwide, with a guarantee of 20% faster transmission in North America, said Ralph Monfort, the company's director of Internet access services. MCi is also guaranteeing that Internet service will be 100% available, with North American users automatically receiving credits for free service time if outages occur (see chart).

MCi's business-related IP services revenue declined 10% last year, according to Steven Harris, an analyst at IDC in Framingham, Mass. But he said MCi's Internet service-level agreements are among the most impressive being offered by network operators. "SLAs are an awful area that carriers are trying to improve," Harris said. ☐ 46504

MCi's new Internet service guarantees:

• Network latency has been reduced globally, with round-trip transmission in North America now averaging 45 milliseconds or less between hub routers.

• Packet delivery rates for ensuring that network traffic reaches its intended destination will be 99% in all areas and 99.5% in some regions.

• Internet access will be 100% available for services ordered and provisioned by MCi, with users getting a one-day credit for each hour of network outage.

Banks Balk at Info-Sharing Provision in Privacy Law

Claim compliance with Calif. SB 1 will raise IT costs

BY JAKUBAR VJAYAN

Banks doing business in California are planning to appeal a recent federal court decision that lets the state enforce tough new provisions related to the sharing of customer information with affiliates.

The provisions are part of California's Financial Information Privacy Act, known as SB 1, which went into effect July 1. The law, which is hugely unpopular among financial service providers, requires banks to get customers the opportunity to opt out of cross-marketing programs in which their information is shared with affiliates such as mortgage and credit card companies.

Most financial companies in the state had expected that the affiliate sharing provision in SB 1 would be preempted by existing guidelines in the federal Fair Credit Reporting Act of 1996, under which no such permission is required.

An attempt by the American Bankers Association, the Financial Services Roundtable and the Consumer Bankers Association to legally block the affiliate sharing provisions of SB 1 was rejected by a California Federal District Court judge in late June.

"We were certainly disappointed by that ruling," said Harvey Radin, a spokesman for Bank of America Corp. in New York. "The decision really makes it harder for our customers to do business with us." IT expenses associated with maintaining and process-

ing customer preference information could contribute to increased costs, he added.

Under the law, companies have to send notices to all California-based customers and give them a chance to opt out of affiliate sharing. They must wait 45 days for replies. During that time, customer records have to be quarantined and can't be shared with others. Companies that share information with nonaffiliated third parties also need to get separate opt-in permissions.

Compliance Headaches

From an IT standpoint, complying with the requirements means creating new database tables for recording information about when notices were sent out, when they were returned and a customer's preference, said Anand Noor, CEO of StrongAuth Inc., an identity and compliance management company in Cupertino, Calif.

It also means putting poli-

cies in place "that spell out what business divisions need to do and a process for ensuring that they check this table before sharing any information with affiliates" and third parties, Noor said.

"Companies are making a huge effort to comply with the law. It caught a lot of them by surprise," said Fritz Elmendorf, vice president of communications at the Consumer

Bankers Association. A lot of that group's members have simply shut down cross-marketing activities "because they have not yet gone through the process of sending out notices, he said.

Notating the opt-out and opt-in selections on customer files "becomes complicated, time-consuming and expensive," given the separate requirements that banks often maintain for mortgages, credit cards and deposit accounts, Elmendorf said. "Mergers often complicate this and compound it where there may be multiple systems in multiple states," he said.

"We remain fully confident that we will prevail on appeal," said Tom Dresslar, a spokesman for California Attorney General Bill Lockyer.

"I can understand why [banks] were taken by surprise," Dresslar added. "They've been on a long winning streak on these kinds of issues." ☐ 46504

JUST THE FACTS

California's SB 1 Privacy Act

Enacted July 1, 1994

Requires financial institutions to obtain customer consent before sharing information with affiliates.

Applies to all financial institutions that do business in California.

Penalties for non-compliance: \$100,000 per violation.



Designed to work the way business

Samsung's 193P display

Designed to work the way business engineers work, Samsung's 193P display is an ergonomic "soft" solution that's kind on the eyes and easy on the neck.

- 19" Active Matrix TFT
- Full screen resolution of 1440 x 900
- 175° wide viewing angle
- May be tilted back 15°

Mobile Devices Move Wi-Fi, Cellular Closer to Convergence

HP, Motorola products let users roam between networks but have limitations

BY BOB BREWIN

Wi-Fi and cellular network technology finally tied the knot last week, as Hewlett-Packard Co. and Motorola Inc. each introduced mobile devices that can roam between the two technologies. But both products have limitations.

Motorola said its CN620 phone can function as a voice-over-IP phone on Wi-Fi wireless LANs and as a cellular phone on Global System for Mobile Communications networks. The CN620 also supports data communications on both networks, Motorola said, adding that handoffs between the Wi-Fi and GSM networks will be handled by technology developed by Avaya Inc. and Proxim Corp.

HP and T-Mobile USA Inc. announced an iPaq handheld computer that can roam without dropping a signal between T-Mobile's 802.11b Wi-Fi hot

spots and GSM cellular data network. The iPaq 6315 can also operate as a voice phone on the T-Mobile GSM network, but it works only in data mode when used in both Wi-Fi and GSM modes.

Rick Roessler, vice president of handheld marketing at HP, said his company and Bellevue, Wash.-based T-Mobile view the development of a combined Wi-Fi/GSM device that would support VoIP as a "very interesting" possibility. But he didn't disclose specific plans for offering such a product.

No 802.11b Support

Motorola's new phone also has a potential drawback: The CN620 doesn't support the well-entrenched 802.11b Wi-Fi standard, meaning users would be required to install WLAN equipment based on the newer 802.11a technology. Several IT managers hailed the potential of a combined Wi-Fi/cell phone, but they

balked at the cost of installing new WLANs to support the CN620.

For example, FedEx Corp. has already deployed an extensive 802.11b infrastructure at its facilities worldwide. Ken Pasley, director of wireless business development at FedEx, said he doesn't see any cost justification for upgrading

MOTOROLA's dual-mode CN620 phone lets users roam from Wi-Fi LANs to cellular networks.



ing the Memphis-based company's WLAN infrastructure to gain the savings on cellular time that the CN620 promises when used as a VoIP phone.

"It's hard to spend yourself into savings," Pasley said, noting that the cost of using cell phones continues to go down.

Melvin "Mac" McClurkin, CIO at Bronson Healthcare Group Inc. in Kalamazoo, Mich., said he wants to take advantage of combination devices that can operate on his company's extensive WLANs, which are based on a mix of 802.11b and 802.11a technology. Therefore, McClurkin said, he views HP's new iPaq as a "more significant" product than the CN620.

A Motorola spokeswoman said the company built its combination phone around the 802.11a standard, which supports raw data rates of up to 54Mbps/sec. in the 5-GHz band, because it has more capacity for voice phone calls than 802.11b does. The latter technology provides data rates of up to 11Mbps/sec. in the 2.4-GHz band. **C 48522**

Red Hat to Launch Java App Server

Vendor extends its reach beyond Linux

BY JAMES MCGILLAI

Red Hat Inc. plans to release its first Java application server at the LinuxWorld conference in San Francisco today, broadening its business beyond the Linux operating system, industry sources said.

Red Hat Application Server will be sold on a subscription basis with services and support, under a pricing model similar to what Red Hat uses for its Linux operating system, according to the sources. Pricing is likely to also be announced today.

The software is based on Jonas, or Java Open Application Server, an open-source application server developed by the ObjectWeb Consortium, a France-based nonprofit group. It incorporates The Apache Software Foundation's Tomcat Java servlet engine and Struts, a software framework for building Java Web applications, the sources said.

Raleigh, N.C.-based Red Hat said last August that it would work with ObjectWeb to offer a Red Hat-branded application server. A beta version was released in December. Representatives for Red Hat and ObjectWeb declined to comment last week on any

upcoming announcements.

Red Hat Application Server is expected to compete with proprietary offerings from the likes of BEA Systems Inc., IBM and Oracle Corp.

One effect of open-source products has been to apply pricing pressure on proprietary vendors, analysts have said. Sun Microsystems Inc., which has struggled to boost its middleware business, offers a low-end version of its application server for free.

Red Hat said last year that it would also release clustering software to link groups of servers and programming tools based on the open-source Eclipse project. Along with

the application server, the products comprise what it calls its Open-Source Architecture, a collection of server software that runs on its Linux operating system.

ObjectWeb was founded in 2002 to foster the development of open-source middleware. Along with Red Hat, its members include Bull SA, France Telecom SA and the French National Institute for Research in Computer Science and Control. **C 48517**

Nicolazzi writes for the IDG News Service.

LINUXWORLD PREVIEW

Deviant Linux will be a major focus at this week's event.

CircleLink 48480
www.computerworld.com

Dell, IBM Tap Intel 64-bit for Servers

It will be raising servers today if IBM and Dell Inc. follow through on expected announcements of new servers built around Intel Corp.'s x86 processors with 64-bit extensions.

The rack and tower configurations that the companies plan to detail will differ in size, scalability and manageability. But from the perspective of speed and pricing, "the one-to-four-way Intel architecture models are commoditized," said John Evers, an analyst at Gartner Inc. in Stamford, Conn. "If you try to make a decision on that basis, it really doesn't matter."

Dell today is expected to announce four dual-processor servers based on Intel's Xeon processor with 64-bit extensions. The systems will include OpenManage 4.0, an upgraded version of Dell's management system that adds remote administration capabilities. Other option enhancements include PCI Express technology and up to 8GB of Double Data Rate 2 memory.

Two rack-mounted servers, the PowerEdge 1650 and 2650, are available now, with pricing starting at \$1,799 and \$1,899, respectively. The two tower systems, the PowerEdge 1600 and 2600, will be available in October.

Meanwhile, IBM plans to announce eight systems based on Xeon and Pentium processors with 64-bit extensions. IBM's offerings feature a mainframe technology called calibrated vector coding that optimizes x86 to allow its servers, including its BladeSystem (XU or L75-x), to meet the requirements of application server environments. They also include IBM's fourth-generation Light Path Diagnostics tool, company officials said.

The IBM servers will be released over the next eight weeks. Pricing for a two-way, 2U rack-mounted server starts at \$2,300.

- Patrick Thibodeau

Pace of Vendor Audits Said to Be Slowing

Users increase self-auditing of software licenses; vendors seek to avoid conflicts

BY THOMAS HOFFMAN

Over the past few months, Microsoft Corp. and other software vendors have become less aggressive about threatening customers with audits to gauge whether they're complying with their license contracts, according to analysts.

That's largely because users have become more diligent about conducting self-examinations with license-tracking tools to defend themselves against audits, IT managers and analysts said last week. In addition, vendors such as Microsoft have shifted toward resolving licensing issues with users instead of running the risk of jeopardizing customer relationships by doing audits.

"We're not feeling any direct pressure from vendors, other than you hear stories from people whose companies have gotten dinged for a couple of hundred thousand dollars,"

said Clayton Bretschneider, a network engineer at Stiles Machinery Inc. in Grand Rapids, Mich. "So with that in the back of your mind, I think it's forcing the record keeping in our IT department to be a lot tighter than it was several years ago."

Stiles, which makes wood-panel saws and other equipment, last year began using a Web-based tool developed by CDW Corp. to track its use of software products, including Microsoft Office. The tracking software is hosted by Vernon Hills, Ill.-based CDW, and Bretschneider said he can access information about his licenses via a Web browser.

According to a report that was issued July 23 by Forrester Research Inc., only two of the 41 IT executives who responded to a March survey said they had seen a decrease in the number of audits conducted

at their companies during the previous 12 months. Thirteen said there had been more audits at their companies.

But the survey also found that more audits were being driven by internal factors than by vendors (see chart). "We were getting indications during the budget cycle in the fourth quarter of 2003 that there was heavy activity in audits [by vendors]," said For-

rester analyst John Rymen. "But the survey found that there isn't a problem."

At a conference held by Gartner Inc. in June 2003, attendees said enterprise software vendors were increasing by threatening users with audits to help make up for reduced spending on new licenses due to the sluggish economy [QuickLink 39183]. "At that time, I was getting

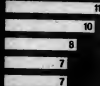
quite a few customer calls about audits, and it's only in the last three or four months that activity has started to drop off," said Gartner analyst Jane Dinsbro.

Sound Processes

"I think we've avoided the need for auditing because of the processes we have in place," said Ron Ellis, an IT manager at Northrup Grumman Corp. in Dallas. Those practices include using license-tracking software from Macrovision Corp. in Santa Clara, Calif. Ellis said, adding that the technology helps the company monitor compliance with licensing agreements.

A few months ago, Microsoft began a formal push to conduct fewer audits of corporate users in the U.S. Instead, it's working with users to help them better understand their license terms, said Keith Breeman, Microsoft's director of worldwide license compliance. "There are still situations where we audit customers, but ideally we're trying to avoid audit situations," he said. ☐ 48526

Audit Trail



IT Managers Brace to Meet Ongoing Sarbanes-Oxley Compliance Demands

Documentation, workflow apps are in demand

BY THOMAS HOFFMAN

IT managers at several large companies said last week that the software they now have should help them meet the Sarbanes-Oxley Act's internal documentation requirements on an ongoing basis. But analysts think many corporate users aren't so well prepared.

Companies that face year-end deadlines for complying with Section 404 of Sarbanes-Oxley have spent a lot of money this year on consulting services in an effort to help themselves "focus on their immediate needs and get their arms around what they need

to automate later," said Cathy Hotka, principal at Cathy Hotka & Associates, a retail IT consultancy in Washington.

Section 404 requires companies to document their financial and IT controls and attest to the effectiveness of the controls on an annual basis. Hotka and other consultants said they believe that starting next year, companies will have to begin investing more heavily in technologies such as workflow, document management and identification management tools to help them automate some of their Section 404 compliance processes.

Compliance work isn't a one-year project, noted John Haggerty, an analyst at ADR Research Inc. in Boston. "It may not be Y2K every year,

but it's an ongoing process that's hanging over people's heads," he said.

"The biggest challenge is to get software that facilitates Sarbanes-Oxley certification,"

said Ross Wescott, chief IT auditor at Portland General Electric Co., an electric utility in Portland, Ore. "If we leave it all to manual paperwork or Excel spreadsheets, the effort will soon become too cumbersome."

Existing Systems Capable

But Wescott added that he thinks Portland General's existing ERP system — which includes software from SSA Global Technologies Inc. and PeopleSoft Inc. — plus other tools it runs are capable of handling the company's ongoing controls documentation and testing requirements.

In some cases, though, "if you try to force-fit Sarbanes-Oxley requirements into existing technologies you have in-house, it doesn't always work," said Karl Kispert, a director at Jefferson Wells International Inc., a Brookfield, Wis.-based risk management consultancy. Kispert added that he expects

most companies to increase their Sarbanes-Oxley technology budgets next year.

Some companies have been more forward-looking. For instance, Bresler & Reiner Inc. purchased workflow software called the SOA's Toolbit from Orlando-based Aesna Inc. in June 2003. Prior to buying the software, executives at the Rockville, Md.-based real estate investment trust decided that they wanted to develop a 10-year plan for Sarbanes-Oxley compliance, said Eric Clarke, Bresler & Reiner's internal audit director.

Clarke said Bresler & Reiner is using Aesna's technology not only to document and test its internal controls, but also to assess the ongoing risks it faces. "We've gone through \$200 million in acquisitions over the last six months, so we have to constantly assess what are significant risks under Section 404," Clarke said.

☐ 48529

SARBANES OXLEY FUTURE

Continued from page 1

Ontario

increase for welfare recipients. The upgrade is expected to eventually cost the province a total of \$2.5 million, which includes the coding work and the creation of a specialized testing system, according to a spokeswoman for the social services ministry.

Legislator Peter Kormos last week said the disclosure that the system couldn't handle the increase in payments prompted him to seek an inquiry into the Accenture contract. Not being able to increase welfare payments without modifying the system "is like buying a car without a steering wheel and General Motors is talking about it as an optional accessory," said Kormos, who leads a small opposition party in Ontario's legislative assembly.

The custom-developed system was originally slated to cost \$18.5 million. The prov-

ince's goal was to create a real-time, Web-enabled application that embedded some 800 rules governing eligibility for social services payments and that could help the province prevent fraud, reduce caseloads and improve service.

The new system, which is based on a mainframe running OS/390, replaced eight incompatible applications. End users access data via Internet Explorer, using Microsoft Corp.'s Active Server Pages technology. The system also includes Business Objects SAS reporting tools and is supported by a network built around equipment from Cisco Systems Inc.

Users Complain

Development work started in 1997, and the system went live provincewide in January 2002. But critics have charged that the technology is difficult to use and requires time-consuming work-arounds.

"It's too cumbersome," said Heather MacVicar, general manager of social services for

the city of Toronto. Her 2,000-member staff uses the Accenture-written software to process payments for 62,000 welfare recipients. Although MacVicar acknowledged that the new system has a more user-friendly interface than the previous one used in Toronto, she added that it's "hugely more complex."

For instance, the system's design doesn't let end users skip steps built into business processes, sometimes doubling the time required to do simple tasks, according to MacVicar. "We would like the flexibility to bypass certain things," she said, adding that trying to get Accenture to make such changes has been "an ongoing process."

According to a report issued by the Ministry of Community and Social Services itself, downtime on the system cost Ontario \$1.6 million in lost worker productivity last year. But the downtime was partly caused by hardware and batch processing issues, not just by

AT-A-GLANCE

Ontario's Business Transformation Project

■ The new system went live across Ontario at the start of 2002, replacing eight older applications that were unable to show welfare case data.

■ It includes a central database, can exchange data with an interactive voice response system and lets workers use third-party sources to verify applicant information.

■ According to Ontario officials, the system has cost \$213.8 million thus far - 50% more than the amount that was originally budgeted.

the software, the report noted.

In his July 2 letter requesting an inquiry, Kormos described the deal with Accenture as "an obviously bad contract" and charged that Ontario officials had been "thor-

oughly bilked by Accenture."

A spokesman for Attorney General Michael Bryant declined to comment about Kormos' request. The spokeswoman for the social services ministry also wouldn't comment about the request or the use of the new system.

In a case study posted on its Canadian Web site, Accenture said the system has helped the province save \$23 million so far. A spokeswoman for the consulting firm said that it has been paid \$181 million based on the system's performance. The company "would not have received a dime had it not generated savings," she said.

Regarding the concerns about the system's rigidity, the Accenture spokeswoman pointed to Ontario's desire to have a centralized set of welfare policies. She described the \$11 million price tag for the application update needed to support the increase in welfare payments as a "reasonable amount" given the scope of the system. **■ 48520**

Continued from page 1

Blackout

no matter how good, there is some little detail you forget," he said last week as the one-year anniversary of the outage approached.

The blackout, which struck last Aug. 14 and left more than 50 million people without power for days, has given many IT managers food for thought over the past year. In interviews last week, a half-dozen IT executives said they have modified their business continuity plans in the wake of the blackout, investing in projects such as reinforcing their networks and increasing the amount of testing they do.

Drew Hiltz, deputy CIO at CDC, Inc. North America Inc., said the New York-based asset management company experienced a communications meltdown for two days as a result of the blackout. In June, CDC Inc. completed a blackout-driven deployment of a Sonet ring that connects multiple of-

fices in New York and New Jersey at OC-48 port speeds.

"As a result of the blackout, the central office had significant problems," Hiltz said. "Their equipment fried." The company is using the Sonet ring not only for data links but also for voice communications, which Hiltz said has helped increase communications resiliency. In addition, the company's IT staffers have worked with Verizon Communications Inc. to reposition circuits so they can support different offices around Manhattan.

Hiltz wouldn't say how much the Sonet ring cost to install. It's more expensive than the T3 lines that CDC Inc. had before the blackout but less costly based on the amount spent per megabit of bandwidth, according to Hiltz. And officials felt they had no choice. "Resiliency is something we couldn't ignore anymore," he said.

Bill Moore, telecommunications manager at the Museum of Modern Art in New York, said all of the museum's IT and building operations systems went down during the blackout. At the time, the mu-

seum was undergoing a major renovation and expansion, so IT staffers asked Verizon to install two points of presence for redundancy. They also added the museum's data and telecommunications center to its main backup generator.

Moore said that before the blackout, the museum had only battery-powered uninterruptible power supplies to temporarily keep its computers up and running.

Lessons Learned

Dan Morreale, CIO at North Bronx Healthcare Network in New York, said one lesson he learned was that he needed to rethink and expand his emergency testing procedures.

The blackout's only impact on North Bronx Healthcare's IT operations was a downed server and the loss of lights in the stairwell leading to its basement data center, Morreale said. But after seeing other companies suffer millions of dollars in productivity losses, he decided he couldn't afford to simply assume that

the systems would keep running if another disaster struck. As a result, North Bronx Healthcare began testing its backup generators every month instead of once a year. IT staffers also started testing the generators under a full systems load, Morreale said.

Gregg Theriault, vice president of business continuity solutions at EMC Corp., said the blackout has pushed many companies to reexamine their data center infrastructures to support data replication between two or even three IT facilities — one of which may be located on a separate power grid.

One side effect of the blackout has been a shortage of power generators, because vendors can't keep up with the demand, according to Ken Brill, executive director of The Uptime Institute Inc. in Santa Fe, N.M. Brill said a combination of the blackout and new regulations, such as the Sarbanes-Oxley Act, has created a 20-day waiting period for generators nationwide. **■ 48520**



NEW YORK CITY was left without power during last summer's blackout.

Continued from page 1

Ontario

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**COMPUTERWORLD HAS BEEN NAMED
MAGAZINE OF THE YEAR FOR 2004.**

Every year the prestigious American Society of Business Publication Editors (ASBPE) selects one publication with 5,000 or more subscribers to receive this top honor. The award can go to any business publication in any industry category, and we won! We are proud of our ongoing commitment to growth, integrity, audience focus, and in-depth coverage has been recognized by this prestigious award.

COMPUTERWORLD

THE VOICE OF IT MANAGEMENT

MARYFRAN JOHNSON

IT's New Balance

I SPENT A DAY LAST WEEK listening to a group of CIOs and IT executives trade ideas on how to solve their biggest problems with governance, regulatory compliance and outsourcing. This trio of hot topics kept the conversations cooking at an executive education program at Ohio State's Fisher School of Business.

Nobody had solved all the mysteries of life by day's end, but everybody walked away with new ideas, as well as the kind of insight that only peers can provide. For these were totally frank, safely off-the-record, egos-checked-at-the-door discussions. Barely a word was spoken about specific products or technologies. Rather, most of the talk was about managing people — from IT department staffers, business users and compliance auditors, to external customers, top executives and CEOs. It was about communication and expectations, about conveying the value of IT.

Most important, it was about finding the right balance between what the business demands and what technology can deliver.

One IT leader from a car manufacturer described his tough-love approach to driving quality metrics and more professional project management into an international operation. He communicated IT progress and accomplishments by translating it into carmaker jargon that his executive colleagues could readily grasp. He underscored the need to negotiate very specific service-level agreements between IT and the business units (which led to the best quote of the day: "If your SLA is 'happiness,' you're dead.") His approach to IT governance is a highly customized one, with smaller steering committees set up based on dedicated business functions (such as marketing) rather than concentrated in one



überboard of decision-makers.

The executives also took turns acting as IT consultants in residence, diagnosing one another's management woes and prescribing new approaches. One CIO described a deteriorating relationship with other top executives at his insurance company in the wake of some rapid

growth and the imposition of more disciplined IT procedures that users disliked. His IT/business alignment had clearly lost its balance.

The advice he got was classic, practical and focused on dousing the fire of dissatisfaction with IT. Start by interviewing the CEO and other company officials about what they think is wrong with IT, his peers suggested. Do a lot of listening and very

little talking. Seek out the IT champions on staff to get their informal advice too. Then craft the next steps to regain that lost balance.

The assembled execs agreed that the most vital element in any IT governance or business alignment plan is the decision-making process itself — meaning who's involved and how much clout they have to get things done. It seems like such a no-brainer to ensure that this kind of high-level thinking about IT direction happens, but it's still surprisingly rare to find it done well. Or even done at all.

A few weeks ago, we ran some rather discouraging survey results in a special report about IT governance (QuickLink 48025). The PricewaterhouseCoopers study showed that despite the fact that 76% of 335 CEOs and CIOs said they knew of IT problems that could be resolved with a formal governance framework, fewer than half of the respondents (42%) said they had plans to create anything like an executive-level steering or board-level strategy committee. So short-sighted, and such a shame.

So, how's the balance between IT and business at your company? If you haven't thought about it in a while, take a moment to do so. Then start the conversation. **48486**



DAN GILLMOR

Executive Blogging for Fun and Profit

SOMEONE I know posted an intriguing item on his weblog the other day. It began: "It's tough to compete against a social movement. Especially one in which you're a believer."

The blogger was Jonathan Schwartz, president and chief operating officer of Sun Microsystems. When it comes to the expanding blogosphere, he's a welcome addition.

Schwartz is among a small number of senior executives in corporate America to adopt the blog format for explaining his views. He's already one of the best at it, and other executives could learn something from him.

The average corporate Web site has much in common with the average annual report. Both are loaded with information, too much of which is hidden or disguised in an effort to minimize problems and maximize what's going right. To that end, particularly in the case of companies with problems, such sites seem designed to thwart the casual visitor who wants to look deeply into a corporation and its doings.

The least interesting feature of a corporate Web site, with few exceptions, is the typical "Letter From the Chief Executive," a content-free misnomer, most likely written by a committee of lawyers and marketing people, that does nothing to reveal the character either of the company or its leader. Creating an impression of openness isn't the same as actually being open. Establishing a corporately open blog can change that.

What the best blogs tend to have in common is voice. They clearly have been written by human beings with genuine ideas and a passion for what they're saying.

Schwartz isn't the first high-ranking executive to have started a blog. That honor may belong to Groove Net-



works' Ray Ozzie, whose intermittent blog — be sometimes goes for months without posting anything — nonetheless has been enlightening at times.

He says the blog gives him "a communications channel under my control," where he can say what he wants (within limits, such as keeping trade secrets secret), and he has the ability to post quickly and without limits on length.

"I feel as though there's a conversation — many conversations — going on there," Ozzie says. "It lets me feel like I'm part of that conversation, and when I get calls and e-mails, there's confirmation that I'm part of the conversation."

My favorite senior-executive blog comes from Internet billionaire Mark Cuban, owner of the NBA's Dallas Mavericks. His "Blog Maverick" attracted instant attention when he launched it in March, and no wonder: He took on sportswriters and offered pungent commentary on sports and investing. It's great stuff.

Corporate lawyers are undoubtedly having mini-seizures over their outspoken executives' public statements. But sensible rules for corporate bloggers can prevent public relations or legal problems.

IT needs to understand how blogs work, especially the third-party software bloggers now use. Security matters. You really don't want a hacker to get into your CEO's mouth, for example.

I don't think corporate blogging is a fad. The blog brings a human voice to the enterprise. It's not just good marketing. It's good business. **© 48406**

PIMM FOX

Microsoft Entering a New Phase

GOOGLE's initial public offering ought to quicken the pulse of even the most hardened investors. With shares expected to trade at \$108 to \$135, Google could raise enough money to value the company at a whopping \$36 billion.

Google won't see that much cash, but if investors snap up the shares — and they are expected to do so — the company will net about \$3 billion. Of

course, the early venture-capital investors will receive a tidy sum as well. But there's something contrary in all this.

Microsoft recently announced that it would return a boutload of cash to shareholders, increase its annual dividend and buy back some shares. The move indicates that Microsoft doesn't have a better use for the money, including following a strategy of growing through acquisitions. Yes, after the buyout, Microsoft will still have \$20 billion in reserve to play around with, but technology companies are supposed to be investing in the future. What does it tell us when chip maker Intel begins debating what to do with a cash hoard? Intel could give some of the money back to investors and/or buy back some of its shares.

These possibilities make me wonder what technology companies are all about.

I've always thought that investors poured money into technology companies because innovation, research and



expansion into new markets take capital. Technology investors placed their bets on growth and capital appreciation.

But that seems to be changing. Stalwart technology leaders are returning money to their investors because their shares are languishing and because they can't convince their shareholders that the future will be better than today.

Google appears to be an exceptional case right now. The premier search engine company doesn't seem to be having any problems raising cash.

Meanwhile, Microsoft has said it intends to sell Slate, its online magazine. It has failed to match Google in the search engine business, and it has taken hits from Apple's iPod in the world of music downloads.

The truth is, Microsoft makes money the old-fashioned way: with recurring cash streams that businesses are forced to cough up because just about everyone uses the company's operating system, which comes bundled with

most PCs. In other words, it isn't innovation that drives Microsoft's future; it's an ability to make good, old-fashioned, hardball business decisions.

Indeed, you could say that Microsoft is merely reacting to changes in accounting procedures, since it has cut back on granting employees stock options that would cost the company lots of money. Because Microsoft's share price hasn't budged much over the past 12 months, those employees who do own shares (Bill Gates being the biggest shareholder) will reap a tremendous reward when the company pays a special dividend, increases the annual payout and buys back shares.

But that leaves technology investors wondering where they ought to place their bets in the future.

There's nothing wrong with handing excess cash back to investors. But it makes me think that Microsoft's days as a leader are coming to an end.

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READERS' LETTERS

Don't Concede the Desktop to Microsoft

IT'S TRUE that converting a company to open-source applications is difficult: the cost of reinstallation and retraining is hard to justify ("Open-Source Apps Losing Desktop Battle With Microsoft," QuickLink 47772). Therefore, we

can't expect quick adoption of open-source desktops in the corporate world. But Mark Hall neglected to mention two places where open-source applications will gain traction. The first is new companies. Start-ups don't have existing infrastructure to worry about, and they are typically very price-sensitive, so the zero cost of open-source software will appeal to them. Once a few start-ups grow up into large companies, there will be a base of experienced advocates for open-source desktop applications.

The second is the nonprofit world. Nonprofits typically have an abundance of volunteer labor (including people available to install new applications) and a shortage of cash to buy software. Purchased Microsoft software isn't open-source software's competition for nonprofits'

business; they generally don't have the cash to buy the stuff. The competition is greater Microsoft software. Recent Microsoft antitrust rulings will actually accelerate open-source adoption for this group.

Mark J. Dulcay
Dorchester, Mass.
mark@butterfly.org

OPEN-SOURCE is nowhere to be found on the desktop currently. It's true, but that is only part of the total picture. Companies made the switch to Microsoft applications for the same reason that every company bought IBM products in an earlier time: You can't be blamed for buying products from the best supplier. Companies and organizations that do use products from alternative sources may have secret advantages like not being plagued by worms and viruses aimed at the "big" product, but if the alternative product has a bug, it's easier to blame the IT manager. Since the managers aren't rewarded for reducing overall risks, they reduce their private risks. And still too many in

upper management take pride in not knowing anything useful about IT, so for them the decision is easy.

Frank Claris
Project manager,
Mechelen, Belgium
frank.claris@trivac.be

QUESTIONS you don't pay attention to events overseas. The Munich municipal government is converting to open-source desktop applications, and the French government is evaluating a complete conversion of all government desktop applications to save money. China is aggressively pushing open-source desktop applications.

The real issue with desktop apps is not so much total cost of ownership as it is a frustration with the up-grade treadmill that Microsoft forces users to follow.

Also, as users and IT departments lose trust in Microsoft over its continual security failures, they are beginning to seriously think about abandoning the monolithic Microsoft applications.

Eddie Jones
Applications developer,
Montgomery, Ala.

A VAX Alternative

FOR those seeking a VAX alternative other than Chrono-VAX, I strongly recommend giving the open-source SIMH VAX emulator a try ("VAX Users: See the Letters on the Wall," QuickLink 47934). The SIMH VAX emulator can be compiled and run on both Windows and Linux with ease. Benefits include a free emulator that can run on a Linux PC, with full functionality.

Andrew Robert
Systems architect,
Massachusetts Financial Services,
Boston, arobert@mfs.com

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to James Eccles, letters editor, Computerworld, PO Box 997, 300 Old Connecticut Path, Framingham, Mass. 01901. Fax: (508) 879-4843.

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TECHNOLOGY

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EMERGING TECHNOLOGIES

Ultrawideband: A Better Bluetooth

UWB offers huge bandwidth over short distances without wires, but regulatory hurdles and a fierce standards battle could slow its introduction. **Page 22**



QUICKSTUDY Form Factor

Form factor refers to the overall dimensions and component layout of a device — in other words, its physical size and packaging. The term covers technical specs and/or general-purpose descriptors for hardware components. **Page 24**

SECURITY MANAGER'S JOURNAL

Singing the TLS Protocol Blues

Roger Foix runs into one stumbling block after another when he tries to secure e-mail at a client's company using the Transport Layer Security protocol. **Page 26**

Covering THE Waterfront

Information technology is playing a bigger role in protecting the nation's ports, but many projects have yet to fully roll out. **BY LINDA ROSENCRANCE**

SHIPPING PORTS are gateways to international and domestic trade in the U.S., but they are also tempting targets for terrorists. U.S. ports and waterways handle more than 2 billion tons of domestic and import/export cargo annually, a volume that's expected to triple by 2020, according to the American Association of Port Authorities in Alexandria, Va. Before the Sept. 11 terrorist attacks, officials at U.S. ports focused on moving cargo from one place to another as cost-effectively as possible. Now those officials are just as concerned with protecting ports and meeting federal and international mandates for increased security. As a result, information technology is playing a bigger role in keeping ports safe. In June, Homeland Security Secre-

tary Tom Ridge said that most seaports would comply with the July 1 deadline for security under the International Ship and Port Facility Security Code and the Maritime Transportation Security Act (MTSA), which requires ports and vessels to control access, monitor activity and screen personnel, baggage, cargo and vehicles.

Yet while all U.S. ports are trying to improve security, for most it's still a work in progress, and the role IT plays varies widely. Here's how six ports are using IT to address security.

■ CORPUS CHRISTI

The Port of Corpus Christi in Texas is implementing a security plan to protect 27 miles of waterfront property. As part of the first phase, it's installing 36 surveillance cameras, including thermal cameras, infrared cameras and



Hot Technologies for Port Security

ELECTRONIC RADARS

ACCESS CONTROL SYSTEMS

VESSEL TRACKING

color cameras; intrusion-detection and motion-detection technology; plus fencing, sensors and an access control system.

These systems will be linked by a fiber-based network, and the information they collect will be sent to a security command center, says Gustavo Espinosa, the port's manager of information systems. Omaha-based Advest LLC has been awarded a \$2.9 million contract — part of \$13.2 million in federal grants made to the port — to provide and integrate the systems, he says.

That project includes the purchase of alert-notification software from VistaScope Security Systems Corp. The Atlanta-based vendor's Security Data Management System automates threat detection through real-time analysis of video generated by surveillance cameras. SDMS analyzes images to detect security violations and alerts security personnel of abnormal movements or objects. The software, built on Microsoft Corp.'s .Net architecture and open standards, also provides data and security sensor integration.

Using VistaScope's software and hardware, the port will integrate all the video cameras, Espinosa says. "We can display one view or a hundred views. We have two consoles, and each one could select any camera view it wants to see," he says.

Espinosa tapped Tideland Maritime Systems, a Houston-based division of maritime navigation aids supplier Tideland Signal Corp., for its Vessel Traffic Information System. The VTIS consists of camera surveillance, two radar tracking systems, an automated identification system and a ship-to-ship microwave communications link.

The port will use the Vessel Traffic Management and Information Systems

5060 from Norcontrol IT AS in Horten, Norway, to collect, integrate, assess and display data from a variety of sensors to provide a comprehensive view of vessel traffic.

"For the VTIS, we are going to use a combination of T1, wireless and fiber to transmit the radars and video imaging to the security center," Espinosa says. "We are also planning to install checkpoints throughout the Corpus Christi ship channel to receive the signal from vessels and transmit it to the security center and harbor master's office."

But the VTIS and security system are independent of each other, so the port is trying to find a way to integrate the two, he says.

■ NORTH CAROLINA

The North Carolina State Ports Authority, which manages the seaports in Wilmington and Morehead City, is moving forward on major security upgrades, says Doug Campen, security director for the port authority. Campen is planning to deploy IP-based video surveillance cameras and motion-detection technologies, as well as an ID card system that will be compatible with the Transportation Worker Identification Credential (TWIC) system. That Transportation Security Administration (TSA) pilot program aims to create a uniform identification credential for all transportation workers, who require unescorted access to federally regulated transportation facilities.

The port authority also hired an engineering firm to design an integrated security system, Campen says. "Now, we don't have any ID systems or any surveillance systems or RFID tags. And that's good, because we can start fresh," Campen says. "A lot of seaports I've talked to are trying to integrate the

old with the new, and they're having problems."

■ NEW YORK

Bethann Rooney, manager of port security for the Port Authority of New York and New Jersey, says her agency is focused on the physical security of the port.

As part of a federally funded pilot program called Operation Safe Commerce, Rooney says, the port authority is working with private industry to identify supply chain vulnerabilities and develop improved methods and technologies to ensure the security of cargo entering and leaving the US.

Under the program, the agency is testing various technologies, including electronic seals that secure container doors and detect and report tampering, as well as RFID tags that can determine whether a container has been tampered with, Rooney says.

■ SEATTLE

The Port of Seattle, which is also participating in Operation Safe Commerce, has instituted an access control system at its headquarters using ID badging technology from Goddard Technology Corp. in Greenville, S.C., an access control system from Johnson Controls Inc. in Milwaukee and smart card printers from Fargo Electronics Inc. in Minneapolis.

Employees' fingerprint images are recorded and encoded on smart card identity badges, and readers at secured entrances compare the encoded fingerprint image on an employee's smart card to the fingerprint placed on the reader.

As a landlord port, the Port of Seattle leases out terminals to private companies that operate them, says Jim Sherrill, director of seaport security at the agency. The Coast Guard, which is responsible for ensuring that ports comply with the MTSA, requires terminals to have access control systems and surveillance monitoring systems, and progress is being made in that area, he says.

The seaport, which to date has received \$10 million in grants from the TSA, also uses browser-based software from Seattle-based Vigilant Inc. to record and manage surveillance camera data. The integrated system can automatically notify the port and allow officials to view video via the Internet.

■ OAKLAND

The Port of Oakland in California has installed an automated pedestrian access control system that includes

turnstile gates and an ID card reader system that checks the identity of people entering the port, says Ray Bionis, general manager of maritime operations and designated port security officer. The system is designed to comply with the TSA's specifications for access control and the implementation of TWIC smart cards, he says.

■ SAN DIEGO

The Port of San Diego is in the process of completing its Operations Center. A central command and control center, the operations center will merge data from local and federal monitoring and surveillance systems and be monitored around the clock. All stakeholders located within the port will have real-time access to the information, according to San Diego Harbor Police Capt. Jessica Cummings, who is responsible for homeland security at the port.

Uncommon Standards

Because security varies widely among ports and there is no federal mandate detailing the type of security systems ports should implement, members of the National Safe Waterways and Security Alliance in Alcoa, Tenn., are concerned that many ports don't really know what they need to do, or how to do it. They also worry that ports don't test the systems they do install thoroughly enough.

The group believes that more federal oversight is needed. "The government is going to have to set higher goals or objectives, but the ports themselves and port associations can get together and refine the system a lot better to meet not only their security needs, but their operational needs," says the organization's chief operating officer, John Woldenberg.

Jon Grant, director of the Washington-based Port Security Council of America, says his group's main focus is funding, but members are also concerned about technology issues.

"We're working to make sure that we move forward in that direction," he says. "With the MTSA going into effect, we certainly have increased the manpower and the fences and the cameras, but technology is a process that's going to take some time." ■ 48054

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color cameras, intrusion-detection and motion-detection technology; plus fencing, sensors and an access control system.

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Richard Villars, Vice President, Storage Systems Research, IDC
- 9:15am to 9:45am **Consolidation Strategies for a New Media World**
André Mendes, Chief Technology Integration Officer, PBS
- 9:45am to 10:15am Refreshment and Networking Break
- 10:15am to 10:45am **Perspectives from Oppenheimer Funds**
Tim Gertsch, Manager, Telecommunications, Oppenheimer Funds
- 10:45am to 11:15am **Customer Challenges and Solutions: Real-Life Scenarios Connecting Data Centers Over Distance**
Steve Adolph, CTO, Enterprise Solutions Group, CIENA
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ULTRAWIDEBAND wireless technology has been called "Bluetooth on steroids." Like Bluetooth, its personal-area network (PAN) cousin, UWB is designed to replace cables with short-range, wireless connections, but it offers the much higher bandwidth needed to support multimedia data streams at very low power levels. And because UWB can communicate both relative distance and position, it can be used for tracking equipment, containers or other objects.

In a recent technology demonstration, Freescale Semiconductor Inc. in Tempe, Ariz., showed a UWB device that transmitted at a data rate of 100Mbit/sec at a range of up to 30 meters. That bandwidth—100 times faster than Bluetooth and twice the capacity of the fastest Wi-Fi networks—is enough to pump three concurrent video streams over a single UWB connection. Vendors are promising UWB products that support speeds up to 1Gbit/sec.

Waiting for UWB

While the prospect of 100Mbit/sec data transfers is exciting, UWB is probably three or more years away from widespread adoption, especially for business use, according to chip makers and analysts. Government regulators

outside the U.S. haven't approved the use of UWB, and standards bodies are arguing over the final specification. Craig Mathias, an analyst at Farpoint Group in Ashland, Mass., predicts that the first products with UWB chips, designed for home theater applications, will debut next year. Mass adoption of the technology won't come until 2007, he says.

Business applications, when they come, will center on UWB as a replacement for the Universal Serial Bus standard, says Ken Dulcney, an analyst at Gartner Inc. in Stamford, Conn. UWB could be used to easily connect several laptops to a single projector to

handle video or slide presentations, or it could be used to back up large files quickly, he says. Eventually, workers could carry a portable storage device

equipped with a system image and a UWB connectivity. Users would be able to sit down at any workstation, connect via UWB and start working.

"It's very, very significant technology, and UWB is a guaranteed win," adds Mathias, noting that 50 companies are making UWB chips, including heavyweights like Intel Corp. But vendors have yet to agree on a standard. Intel is backing one camp, while another industry giant, Motorola Inc. (through its Freescale subsidiary), is backing the other.

UWB Standards Face Off

MultiBand OFDM

The MultiBand OFDM Alliance's specification gets its name from the fact that it divides UWB's 7,500-MHz-wide frequency range between 31 GHz and 10.6 GHz into smaller, 528-MHz segments. A mandatory mode supported by all MBQA devices uses three bands below 5 GHz.

Orthogonal Frequency Division Multiplexing transmits data in 312.5 nano-second time slots, alternating among three frequency bands. Spreading information across multiple bands allows the technology to be very efficient, offering high bandwidth at low power levels, according to Srivens Somayajulu, a senior staff researcher at Intel.

DS-UWB

The UWB Forum's DS-UWB technology transmits data at a rate exceeding 1 billion pulses per second and spreads the transmissions across the widest possible frequency band. Forum members are also promoting acceptance of what's called the Common Spread Mode, which works as a kind of traffic cop among the different UWB standards, says Freescale's Martin Rothbart.

EMERGING TECHNOLOGIES

Ultrawideband: A Better Bluetooth

Outlook: The wireless personal-area network technology is more than 100 times faster than Bluetooth, but business applications are still a long way off. **By Matt Hamblen**

ULTRAWIDEBAND wireless technology has been called "Bluetooth on steroids." Like Bluetooth, its personal-area network (PAN) cousin, UWB is designed to replace cables with short-range, wireless connections, but it offers the much higher bandwidth needed to support multimedia data streams at very low power levels. And because UWB can communicate both relative distance and position, it can be used for tracking equipment, containers or other objects.

In a recent technology demonstration, Freescale Semiconductor Inc.

in Tempe, Ariz., showed a UWB device that transmitted at a data rate of 100Mbit/sec. at a range of up to 10 meters. That bandwidth — 100 times faster than Bluetooth and twice the capacity of the fastest Wi-Fi networks — is enough to pump three concurrent video streams over a single UWB connection. Vendors are promising UWB products that support speeds up to 1Gbit/sec.

Waiting for UWB

While the prospect of 100Mbit/sec. data transfers is exciting, UWB is probably three or more years away from widespread adoption, especially for business use, according to chip makers and analysts. Government regulators

outside the U.S. haven't approved the use of UWB, and standards bodies are arguing over the final specification.

Craig Mathias, an analyst at Farpoint Group in Ashland, Mass., predicts that the first products with UWB chips, designed for home theater applications, will debut next year. Mass adoption of the technology won't come until 2007, he says.

Business applications, where they come, will center on UWB as a replacement for the Universal Serial Bus standard, says Ken Duloney, an analyst at Gartner Inc. in Stamford, Conn. UWB could be used to easily connect several laptops to a single projector to

handle video or slide presentations, or it could be used to back up large files quickly, he says. Eventually, workers could carry a portable storage device

equipped with a system image and UWB connectivity. Users would be able to sit down at any workstation, connect via UWB and start working.

"It's very, very significant technology, and UWB is a guaranteed win," adds Mathias, noting that 50 companies are making UWB chips, including heavyweights like Intel Corp. But vendors have yet to agree on a standard. Intel is backing one camp, while another industry giant, Motorola Inc. (through its Freescale subsidiary), is backing the other.

EMERGING TECHNOLOGIES

Ultrawideband: A Better Bluetooth

Outlook: The wireless personal-area network technology is more than 100 times faster than Bluetooth, but business applications are still a long way off. **By Matt Hamblen**

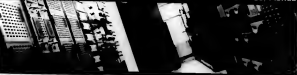


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MONDAY, OCTOBER 25

9:00am to 9:30am Breakfast

9:30am to 10:25am

INDUSTRY HEADS TRACK

Addressing High Density Cooling of Storage Networking Equipment at the Facility Level
Donald Daaly, Founder & President, CLB Associates

INDUSTRY HEADS TRACK

Storage Basics and Trends
Dennis Martin, Senior Analyst, and Greg Schulz, Senior Analyst, Evaluator Group

CAREER DEVELOPMENT TRACK

Power, Statements, Questions and Answers Techniques
Howard Goldstein, Founder, Howard Goldstein Associates, Inc.

10:30am to 11:30am

Role of Server Blades and Virtualization in Next Generation Data Center
Arun Tanaka, Founder and Consulting Analyst, Tange Group

Why Tape Continues to Make the Grade
Richard Morada, President, Tape Technology Council

11:30am to 1:00pm

Lunch

Afternoon

SNIA Tutorial Session 100pm to 1:00pm

- Data Lifecycle
- Virtualization & Securing Your Storage
- Focus on Networking Your Storage
- Focus on Storage
- SAN Management
- Voice of the User



IDC Selecting Solutions 1:00pm to 2:00pm

IDC
In this fast-paced session, IDC's top storage analysts will analyze companies, growing interest in developing server storage solutions, and discuss its impact on storage components, systems, network management and services.

IT Brief-Meter Brief Outlook from 2:00pm to 2:30pm

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7:00pm to 9:00pm Welcome Reception

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TUESDAY, OCTOBER 26 General Sessions Begin

7:15am to 8:15am

Breakfast

8:30am to 9:15am



Don Tapscott, Renowned Bestselling Author of The Naked Corporation, Growing Up Digital and Paradigm Shift

9:15am to 9:45am



The Future of Knowledge Management
Information Management Systems and Natural Media School

9:45am to 10:15am



Kevin Robins, President & COO, Dell

10:15am to 11:00am



Keith Glennan, VP & CIO, Northrop Grumman IT

11:00am to 11:30am



Shinjiro Iwata, CEO, Hitachi Data Systems

11:30am to 1:00pm



Industry Presidents' Roundtable and Market Outlook

1:00pm to 1:30pm



CONCURRENT LUNCHEON SESSIONS

1:30pm to 2:00pm



General Networking Luncheon
On the JPL Level

Concurrent Luncheon Session

Steve Oudiz, Founder & Senior Analyst, Enterprise Storage Group

Concurrent Luncheon Session

Richard Swadlow, InterUnity Group

2:00pm to 2:30pm



David Cohen, VP, Technology Architecture Group, Merrill Lynch

2:30pm to 3:00pm



Greg Rayne, Chairman & CEO, Brocade Communications Systems

3:00pm to 3:30pm



Rod Mueller, Manager of Technology and Infrastructure, International Paper

3:30pm to 4:00pm



CTO Insights Panel
Michael J. Lipp, IBM Tolly; Founder, Tolly Partners International

4:00pm to 5:30pm



CONCURRENT SESSIONS

5:30pm to 8:30pm



Expo with Dinner / Interoperability & Solutions Demo Open



WEDNESDAY, OCTOBER 27

7:15am to 8:15am



Breakfast

8:15am to 8:30am



Opening Remarks

8:30am to 9:15am



Nick Carr, former Executive Editor of the Harvard Business Review and author of Does IT Matter?

9:15am to 9:45am



End User Case Study

9:45am to 10:15am



Industry Leader Presentation

10:30am to 11:00am



Michael Prince, CIO, Burlington Coat Factory

11:00am to 11:30am



Peter van Oppen, Chairman & CEO, ADIC

11:30am to 12:15pm



Panel: End Users Speak Out

12:15pm to 1:45pm



Expo & Luncheon

1:45pm to 2:15pm



End User Case Study

2:15pm to 2:45pm



Industry Leader Presentation

2:45pm to 3:30pm



Analyst Roundtable Panel
Walter J. Lipp, IBM Tolly; Founder, Tolly Partners International



3:45pm to 5:15pm



CONCURRENT SESSIONS

5:15pm to 7:15pm



Expo and Reception

7:30pm to 9:00pm



Gala Evening Dinner and Entertainment

THURSDAY, OCTOBER 28

7:30am to 8:30am



Breakfast

8:30am to Noon



CONCURRENT TECHNICAL & BUSINESS (OPTIONAL)
 Conference Concludes



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UWB faces serious regulatory hurdles as well, "so it's hard for it to move forward," Mathias says. The U.S. is the only country to approve spectrum for use by UWB radios. Regulators worry that UWB will interfere with a range of other wireless devices that operate in the same spectrum, including cell phones, says Steven Wood, a strategy planner at Intel.

Opposition by foreign chip makers and foreign governments might be lessening, however, says Gary Anderson, a delegate in the International Telecommunications Union (ITU). He says tests shown recently to regulators from the European Union demonstrated that interference is not a problem.

"UWB is here to stay, and within the next six months we'll see a great warming in the international community for UWB," says Anderson, who is CEO of Boston-based UraX Communications Inc., a developer of UWB devices. The ITU is moving toward a UWB mandate that should be ready in less than a year, he adds.

Standards Deadlock

Unfortunately, at the Institute of Electrical and Electronics Engineers Inc., the matter of reaching a UWB standard is still "politically deadlocked," according to Wood and others.

The IEEE study group for the 802.15.3a PAN draft standard is at a stalemate as the two vendor groups push competing specifications. Intel is aligned with the 140-member MultiBand OFDM Alliance (MBOA), which advocates the Orthogonal Frequency Division Multiplexing (OFDM) standard, while Freescale and the 30-member UWB Forum are pushing for Direct Sequence UWB (DS-UWB) technology. UWB won't progress until the two sides reach a compromise—something neither appears ready to do.

Martin Rothbart, director of UWB operations at Freescale, says DS-UWB has a "two-year time-to-market advantage" over MBOA approaches. Freescale has demonstrated a chip set called XtremeSpectrum, which it expects to appear in home wireless digital video applications this fall, he says. Freescale says the chip will support speeds up to 1Gbit/sec. over 2 meters and will be available by the end of next year.

Intel's Wood says Rothbart's claim of a two-year lead time over MBOA is "in-

dicrous." Intel and other MBOA vendors will "make it a real contest" for DS-UWB vendors, and the MBOA has nearly five times as many vendors as the UWB Forum, he added.

Mathias says he wouldn't want to choose which approach is better or which will win out. "It's still early, but the amount of innovation by all the companies involved is indicative of the great potential UWB holds," he says.

If UWB doesn't catch on, other technologies in the fast-moving wireless arena could take the lead. For example, a nascent Wi-Fi wireless LAN standard, IEEE 802.11n, is expected to offer bandwidth of 200Mbit/sec. Some analysts say it's possible that by the time UWB products arrive, 802.11n devices may be available, providing higher throughput than first-generation UWB devices.

Although the technology most likely would require more power than UWB, one research firm predicts that it will leap ahead of UWB for home use. That might slow UWB's momentum for business use as well—but don't count on it.

While some vendors are already touting 802.11n compliance, that's "a clearly misleading claim," according to Gartner's Dulaney, who categorizes the standard as "embryonic."

Ultimately, the success of UWB will also depend on its cost. That's still an unknown, although chip vendors predict that volume prices will eventually drop to about \$5—the same as was predicted for Bluetooth. Yet the promise of Bluetooth as a universal cable replacement didn't come to pass because the benefits of adding the technology weren't seen as compelling enough to justify the incremental cost for low-end peripheral devices such as keyboards, mice and even printers.

With its higher bandwidth, UWB may offer a more compelling reason to adopt wireless PANs in the enterprise—and eclipse Bluetooth in the process.

"Bluetooth is a loser," Mathias says. The Bluetooth Special Interest Group claims that the industry is shipping 2 million chips per week, but "who uses it?" he asks. "With UWB, the economic potential is so great that it's hard to imagine it won't move forward." ☐ 40600

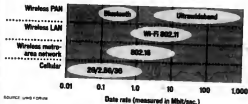
UWB RESOURCES

For more information on UWB technology, go online:
 QuickLink 40602
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Ultrawideband vs. Bluetooth



Where Ultrawideband Fits



Taking a UWB Test Drive

UWB is getting a new workplace test drive in the new Signal Center for Computer Science at the University of Illinois at Urbana-Champaign College of Engineering. The building, which opened April 30, will have UWB sensors installed in one wing by August, following tests for interference, says professor Roy Campbell. UWB sensors and tags from Ubisense Ltd., in Cambridge, England, will be used to identify the location of the teachers and students who wear them. Special software will pinpoint each individual's location in the wing.

The university is also working on a research project called Safe, with funding from the National Science Foundation, to design a middleware operating system to manage resources used by workers in the wing.

Campbell says several ideas for appli-

cations of UWB have been floated. One would involve developing a way to make a document readable when a user has it in a certain location but leave it encrypted when the document is read elsewhere.

Another would tailor an office to a particular individual automatically, giving him access to certain files or applications. In that case, the Ubisense tag could trigger an automatic sequence of system authentication, and a video camera could verify that the user wearing the tag was indeed the right person.

"In the medical area, there are all sorts of applications for UWB, including how to make sure patients aren't left in the corridor," Campbell says. But ultimately, he adds, UWB's success will depend on "how cheap you can make the technology."

—Matt Hertenstein

Form Factor

DEFINITION

Form factor refers to the overall dimensions and component layout of a device—in other words, its physical size and packaging. The term covers technical specifications and/or general-purpose descriptors for different hardware components.

BY RUSSELL KAY

WHEN we refer to the size of a computer or component, we might be talking about its capacity, speed or connectors. Or we could be talking about its dimensions—how much physical space it occupies on the desktop, inside the PC box, in a server rack or in a briefcase. We apply the term **form factor** to the latter interpretation, to describe size and packaging.

Like much computer terminology, **form factor** began as technical shorthand but later was adopted as a marketing term as well. Thus, in many cases, form factor refers to a strict, technological definition while in others it is a vague and non-standard promotional term.

Here, we offer a quick rundown of common form factors (highlighted in italics) for various types of products.

Disk Drives

For disk storage, form factor is pretty much synonymous with the diameter of the disk platter. Nowadays, the standard form factor for optical drives is 5.25 in. (in a 1.75-in.-thick package that used to be called half-height but is now the standard), and for desktop hard drives it's 3.5 in. (but starting to move to 2.5 in.). For notebook computers, for many

years the standard form factor has been a 2.5-in. drive, but small notebooks are moving to smaller drives—1.8 in., 1.0 in. and now even 0.85 in. Drives for notebooks are also characterized by their thickness or height, usually 1/2, 12.5 or 9mm.

Flash Memory/Disk Drives

Memory cards used in notebook computers, digital cameras, handheld devices, music players and other portable de-

vices are described based on their capacity, in megabytes, and their configuration: In order of decreasing physical size, these form factors include PCMCIA (also PC Card and CardBus); Compact Flash Type III and the thinner Type II; Memory Stick and Memory Stick Pro; SmartMedia; the physically identical MMC (Multimedia Card) and SD (Secure Digital) Card; the MiniSD; and the newest, XID-Picture Card. (To keep the record straight, most of these form factors are also used for I/O or other nonmemory devices.)

Note of those form factors, of course, includes the more recent wave of "keychain" flash memory cards that plug directly into a USB port. Curiously, no single name or form factor descriptor has emerged for these USB devices.

Desktop PC Enclosures

How big (and what shape?) is the box that holds your PC?

Besides referring to the type of motherboard(s) a case is designed to accept, we also describe the case as a *tower* (sometimes *full tower*, with the biggest capacity for multiple disk drives), *midtower* or *minitower* (same basic shape, but shorter); *microtower* (smaller still, usually capable of handling only a single floppy drive and optical drive); the *superflat pizza box*; and finally the *all-in-one* (combining monitor, storage and electronics in a single package).

A somewhat confusing term these days is **small form factor** (sometimes abbreviated SFF), which usually refers to a small, near-cube-shaped box that may require proprietary components, best exemplified by Shuttle Computer Inc. computers or the Arisa case from Antec Inc. Small form factor is also used to describe the smallest enclosures in a given maker's line, regardless of shape.

Server Racks

Servers, routers and many other off-the-shelf IT devices are designed to mount in steel racks that are 19 in. wide. In this case, **form factor** describes the height of a component in multiples of U (or 1.75 in.). Thus we might have a 1U server, a 2U patch panel or a 6U housing for server blades. The standard rack is 42U high.

Portable Computers

For notebooks, we talk about desktop replacement (meaning big, heavy and relatively cheap), *multimedia* (bigger, heavier, not cheap), *thin and light* (tipping out at about 1 in. thick and no more than 4 to 5 lbs.), and *ultraportable* (under 4 lbs., sometimes under 3). Then there's the Tablet PC, Microsoft Corp.'s spec for ink-enabled touch-screen computers that includes two form factors: the simpler *slate* (as attached keyboard, and designed to be attached to a docking station) and the heavier but more versatile *convertible*, with an integrated keyboard.

For handheld PCs (HPC be-

ing another Microsoft spec) and PDAs, no clear set of form factors has emerged, although some smart phones with PDA capability (such as PalmOne Inc.'s Treo 600) are now described as having a *small PDA form factor*.

CPUs

For microprocessors, form factor generally refers to the physical interface between the CPU and the motherboard. We speak of generic form factors or technologies, such as FC-PGA (flip chip pin grid array), where chips are turned upside down and attached using a matrix of solder balls instead of wires. The layout or contact mechanism might be further characterized as *PPGA* (plastic pin grid array), *TCP* (tape carrier package) or *CPGA* (ceramic pin grid array).

Another type of CPU form factor is the same of the attachment mechanism, such as *Socket 478* (the numeral refers to the number of contact points), *Slot 1* or *Slot A*.

Memory Chips

For dynamic RAM chips, the most common form factor is the 168-pin dual inline memory module, or *DIMM*, where RAM chips are located on both sides of a small circuit board that plugs into a designated socket on the motherboard. These are too large for many notebook computers, however, which use a smaller type of module called *SODIMM*, or *Small Outline DIMM*, with either 72 or 144 pins. **48265**

Key is a Computerworld contributing writer in Worcester, Mass. You can contact him at ruskay@charter.net.

MORE ONLINE

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 www.computerworld.com

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PC Cases



1. **File server** (20.6 in. high, 10 drive bays)
2. **Super minitower** (20.3 in. high, 10 drive bays)
3. **Super minitower** (16.75 in. high, nine drive bays)
4. **Minitower** (16.6 in. high, eight drive bays)
5. **Desktop** (5.25 in. high, seven drive bays)
6. **Ultrathin minitower** (or mini desktop; 12.75 in. high, or 3.5 in. high, three drive bays)
7. **MicroATX cube** (7.9 in. high, four drive bays)

PHOTOS BY MICHAEL GOODMAN



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Singing the TLS Protocol Blues

Deploying secure e-mail using transport layer security turns out to be more problematic than it looks. By Roger Fox

THIS WEEK I'm dealing with secure e-mail, and in particular the Transport Layer Security (TLS) protocol.

The financial services company for which I'm consulting is setting up secure e-mail links with several customers to protect messages containing sensitive financial data. The traditional approach to e-mail security is to use a desktop encryption product that's compliant with one of the two common standards: S/MIME or OpenPGP. These are ideal if you have a small, tech-savvy user base, but as you scale up, you start to encounter problems around usability, certificate management, per-user license costs and so on.

TLS 101

My employers are taking a different approach: They're sending their e-mail using TLS, which is essentially the latest incarnation of the Secure Sockets Layer protocol.

You can use TLS to open secure channels between e-mail servers. Once two e-mail servers start talking TLS to each other, they can then pass all their normal e-mail traffic over that secure channel. Voilà! Every message between those two companies is automatically encrypted and decrypted without any effort on the part of the end user. And because TLS support is built into most e-mail gateway software, there's usually no extra cost to use it. You can see why my client likes it.

As with any encryption pro-

toocol, however, the devil is in the details, and the details of TLS have been bedeviling me for quite some time now. One problem is that TLS secures only the link between the two e-mail servers. It provides no protection after the message has reached the destination server, so your confidential e-mails are still unprotected on another company's server.

My client is setting up secure links to its customers, so we have the luxury of just adding caveats to our contracts to mitigate that risk. But several of our customers are questioning how they will know that their messages are still secure after resending us. None of them has found a good answer yet, but a few have spent a lot of money on auditors and security reviews to convince themselves of our security.

Then there's the issue of digital certificates. Like any good encryption protocol, TLS uses them to prove the identity of the sender and the receiver. In our case, each e-mail server uses a digital certificate to authenticate itself to the other e-mail server. The problem is that most certificates are de-

signed for SSL connections on Web servers, which make up the bulk of the market. Web servers use to use only server authentication. When you connect to the server, it gives you its certificate to prove that you've come to the right Web server. Few servers bother to ask clients to prove their identity by presenting their own digital certificate, since most users have never bothered to obtain a digital certificate. So, while client authentication is an option in SSL, it's rarely used.

Not so with TLS. Client authentication is an important part of e-mail security. If someone's sending you an e-mail that looks like it's from the CEO at your biggest client, you want to know that it really is coming from the CEO. Not a hacker who knows how to forge e-mail addresses. When you're buying certificates for your new TLS-enabled e-mail servers, check that your certificate authority provides certificates that support client authentication. Most seem not to, at least not by default.

Tackling Enforcement

Then we hit the enforcement issue. You can set your e-mail servers to one of two modes: opportunistic TLS, where the servers try to negotiate a TLS connection with other servers but resort to unencrypted e-mail if they can't; or enforced TLS, where your e-mail servers use only TLS and refuse to talk to another company's e-mail servers if they don't support the protocol.

Opportunistic TLS is simpler to do, but if a client suddenly reconfigures its e-mail servers (as happened to us three times last week) and the TLS link stops working, then all of your confidential e-mails will be sent unencrypted over

the Internet. Oh, and unless you've set up some custom reporting, you'll never know about it.

If you go for enforced TLS, on the other hand, then the same changes mean that e-mail suddenly stops flowing to and from your client.

After resolving those problems, we hit on an email routing issue. Routing is based on the use of mail exchange (MX) records, which specify the e-mail servers that should be used for a particular domain. When you send an e-mail to president@whitehouse.gov, your server looks up the MX record for whitehouse.gov and sends your message to the server mailhub-wh.tl.whitehouse.gov. TLS uses the same mechanism, so there should be no problems.

Then we came across a client of my firm who's still using old e-mail servers that don't support TLS. Instead, the company had set up a dedicated, unlisted e-mail server for TLS connections. Another client had backup servers listed in its MX records that don't support TLS.

In those cases, you have to stop using MX lookups and start specifying which servers to use for which domain. That takes time to manage. However, if a company changes its e-mail systems, it also changes its MX records, but you won't notice because you're not using MX lookups any more. In that case, e-mail stops.

Soon I'll be incorporating an outsourced archives service into the TLS architecture. I know a fellow consultant who's working on exactly that and looking quite stressed. Given what I've been through so far, I think I'd better go buy him a beer and find out what I'm letting myself in for. ■

WHAT DO YOU THINK?

This week's column is written by a self-proclaimed "Roger Fox," whose name and employee have been disguised for obvious reasons. Contact him at roger.fox@computerworld.com, or join the discussion in our forum: quicklink.link.a9500

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SECURITY LOG

TLS Resources

For an introduction to the topic, **Whitehouse's TLS page** is excellent. http://whitehouse.gov/tls/transport_layer_security

• This Internet Mail Consortium's **IMAP and OpenPGP** pages offers a very good overview of these encryption protocols. www.imc.org/secure/popmail.html

• This page, created by the IETF's Internet Working Group, shows the **STARTTLS** over TLS protocol. <http://www.ietf.org/html.charters/ietf.html>

• The **MIT Launch Utility**, available for download at www.launcher.mitre.org/secure-launching.html, is a useful tool for working with TLS records.

—Roger Fox

Self-Inspection Adds to X Tool

Self-inspection has been released software that's designed to enforce security policy compliance at network endpoints. The **Self-Inspection** tool, developed by **AT&T**, is designed to enforce security policy compliance at network endpoints. The tool is designed to enforce security policy compliance at network endpoints. The tool is designed to enforce security policy compliance at network endpoints.

Tripartite Update Sinks Approval

President, **Advanced Encryption Standard** (AES) has been approved by the National Institute of Standards and Technology (NIST). The AES is a new encryption standard that will be used to protect sensitive information. The AES is a new encryption standard that will be used to protect sensitive information.

BRIEFS

Verbatim Rolls Out New Storage Media

Verbatim Corp. has introduced a new set of 5.25-in. Ultra Density Optical write-once and rewritable media. The storage devices are designed to provide reliable, long-term storage, according to the Charlotte, N.C.-based company. Verbatim's 300B, dual-sided UDO media, which support UDO drives and optical jukeboxes from Hewlett-Packard Co. and Planon Corp., will be available this month starting at \$80.

New IM, E-mail Management Tools

DYS Analytics Inc. added the ability to log and archive instant messages to its Central 4.2 collaboration management application. The Waterloo, Mass.-based company said it also added broader e-mail trending-analysis tools to its E-mail Control product. The updated applications, which are available for Microsoft Exchange and IBM Lotus collaboration products, are available now and start at \$25,000.

IT Monitoring Software Debuts

Adax Inc. announced the availability of iVitality, the software measures IT service levels experienced by users of applications around the clock, taking note of IT infrastructure, networks and application performance, according to the Marlboro, Mass.-based company. Pricing wasn't disclosed.

Web Tools Project Announced

The Eclipse Foundation in Anaheim, Calif., and the ObjectWeb consortium in Saint Ismier Cedex, France, announced the launch of the Eclipse Web Tools Platform Project. Bjorn Freeman-Benson, a research scientist at the University of Washington in Seattle, will lead the project.

PAUL A. STRASSMANN

Depend on Microsoft?

WE ARE ALL dependent on Microsoft. One way of demonstrating that is to imagine a devious attack in which one of the company's frequent updates was rigged to destroy Microsoft software everywhere. The information economy would collapse. Millions of workers would be instantly deprived of their capacity to function. The economic

damage would far surpass the stock market valuation of Microsoft shares.

Early in July, CEO Steve Ballmer sent out a memo to each of Microsoft's 57,000 employees stating that the company will slash annual costs by \$1 billion following a sharp rise in spending over the past three years. Those of us who have bought information technologies from RCA, GE, Honeywell or Amdahl are rather sensitive about such announcements. After serving as Xerox's CIO through the ups and downs of that stellar firm, I am particularly touchy about them. Are they harbingers of decline, or are they reassertions of vigor?

One way to judge a company's viability is to check out trends. From 1999, when Microsoft's price per share peaked, through 2003, when its latest financial report was published, several of Microsoft's costs grew faster than its revenue: Overhead costs grew by 19%, the cost of goods by 34% and employment by 12%. Meanwhile, growth in profit was 37% lower than revenue growth. Actually, that lag in profits is worse than it appears because 15% of the revenue was from investment income and not from sales of software. The numbers confirm that Ballmer was right to institute massive cost reductions.

There is another way to check Microsoft's performance: The Economic Value



Added reflects the enormous accumulation of cash that belongs to shareholders but awaits profitable investment. From the shareholders' standpoint, the EVA is equal to profit minus payment for shareholder equity at the shareholder's valuation of the worth of investments in Microsoft. If the EVA is negative while there is ample cash, it suggests that management has stopped innovating. Well, the EVA numbers (in millions of dollars) tell that story: It was \$1,225 in 1999, -

\$1,798 in 2000, -\$2,294 in 2001, -\$126 in 2002 and \$998 in 2003. Altogether, these indicators don't tell a pretty story.

As a remedy, Microsoft has just decided to unload most of its cash as a way of improving its EVA. That's a sure sign that the company is unable to find sufficiently attractive opportunities to create added value for its customers.

We shouldn't be pleased with this analysis. Microsoft has been a leader in meeting the U.S.'s global priority in IT. Microsoft has provided the de facto standards that have made it possible for a significant share of hardware and software to become interoperable.

If Microsoft wobbles (as IBM did in the early 1980s), we will all incur heavy costs in migrating to other vendors. The cost of replacing Microsoft-embedded systems will rise as the company tries — by every legally permissible

means — to reinforce the dependency on its "monoculture" (see QuickLink #4830).

What to do? I'm not ready to give up Word and Excel. I would struggle to function as an author and researcher if I did. However, the steady stream of security and program updates upsets me. I have made 53 updates for the Windows XP operating system in less than a year. To that I must add patches for Internet Explorer (five in the past 60 days) and several for Word. Every time I make any change, my Windows registry and program-integrity checks show errors that require me to rerun diagnostic routines and take elaborate security and backup precautions. I can only imagine what the systems operators at big organizations must suffer making patches to Exchange servers and other Microsoft software.

Confucius said, "Do not enter a house if you do not know how to exit." That's good advice for anyone who is tempted to install systems from which it would be costly to migrate. In the short run, continuing with an all-Microsoft environment will always be the most attractive option. Nevertheless, users should avoid using software components that are so tightly coupled that any future migration could require wrecking much of the systems architecture. Explore all options to avoid the monoculture perils.

I have been successfully using a non-Microsoft e-mail package for decades, and I have avoided much grief because intruders couldn't readily find my address book. I have just switched happily from Explorer to the perfectly functional Mozilla browser. That is just one easy way to preserve diversity while minimizing risk. When you re-examine your architecture policies, you might want to add a diversity advocate to your staff to examine what it would cost you to migrate from Microsoft in case you must do so. **Q 48409**

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Middleware is Everywhere.

Can you see it?

2

1

3

4

5

Key

1. List of new leads e-mailed pre-takeoff.
2. Prototype specs updated securely.
3. New specs modified in showroom.
4. Modified specs accessed via PDA.
5. Proposals sent to new leads pre-deadline.

MIDDLEWARE IS IBM SOFTWARE. Collaborative software from Lotus that creates one unified platform between employees, partners, customers and vendors. Building off of existing tools, it's flexible and dynamic. It's software that can increase productivity by enabling on demand business. On virtually any kind of device. Everywhere around the globe. Everywhere in between.

Middleware for the on demand world. Learn more at ibm.com/middleware/collaborate

ON DEMAND BUSINESS

MANAGEMENT

08.02.04

Career Watch

How to attract and retain women in IT; where and where not to recruit top talent; and when CIOs talk, do CFOs listen? **Page 33**



Think Tank

Why call centers need to be prepared for the camera-phone generation; ups and downs in IT services spending; and how the IT economy is "stuck in first gear." **Page 32**



OPINION

Questions Trump Answers

IT is full of answer people, but Paul Glen says good answers can get you only so far. At some point, you need to start coming up with great questions. **Page 34**

AT A NATIONAL SALES MEETING, the president of Reliant Pharmaceuticals Inc. rose to ask if there were any questions. "Throw anything at me," he said to the salespeople assembled. Someone immediately asked, "When are we getting automated?"

"Never," the president answered. "I want you out selling our products to physicians, not playing with computers."

Everyone in the room cheered.

"They didn't want sales force automation," explains Reliant's CIO, Ron Calderone, because they didn't want to have to carry a laptop or a PDA or some other handheld data-entry device that such systems typically require.

Nevertheless, Liberty Corner, N.J.-based Reliant needed a system to keep track of the activities of its growing sales force. Although there

were many commercial packages available, user resistance led the company to develop its own sales force automation, or SFA, system, one that eliminated the data entry device in favor of simple telephone input to a speech-recognition front end. "Oddly enough, they didn't view that as SFA," Calderone says.

Accommodating the special needs of users is just one reason why companies continue to develop their own applications. IT shops are bucking the trend toward off-the-shelf applications and are opting to use custom-developed systems in the following situations:

- A package falls short in one or two crucial respects and is bloated with unneeded features.
- Companies can develop their own system more cheaply, especially when they have deep subject-matter expertise.
- An application is of strategic importance, and

Roll Your Own

DESPITE THE PROLIFERATION OF GOOD OFF-THE-SHELF SOFTWARE, SOME SHOPS STILL PREFER TO BUILD IT THEMSELVES. HERE'S WHY.
BY GARY H. ANTHERS



the company wants to control every aspect of it.

- The vendor is too slow or is unwilling to adapt its package to changing user needs.
- The package doesn't integrate well with existing systems or with the company's IT infrastructure.
- Support and maintenance costs are too high.

Simple and Easy

It wasn't user considerations alone that drove Reliant's roll-your-own strategy. Calderone says. He estimates that a commercial SFA package would have cost the company \$4 million to \$6 million for hardware, software, customization, help desk, telecommunications and training. "I have eliminated a number of these costs," he says. "For example, I have no need for a help desk because the system is so easy and simple—it's really just people answering questions over the phone." He says his SFA system cost less than 10% of the amount he would have spent on a full commercial package, albeit with fewer features.

Cardinal Health Inc. in Dublin, Ohio, also developed its own SFA tools—Web-based applications written in Visual Basic. Because the company had a long history of working with these kinds of tools, it knew exactly what it wanted and saw in-house development as low-risk and low-cost. In addition, says Rich Gius, CIO in Medical Products and Services, ongoing maintenance and support costs for a commercial product would have been far greater.

Explains Gius, "Our homegrown tool integrates directly with our common data warehouse, but a tool from the outside would have required a replication of our data warehouse into their own table[s], so the integration cost, the data management and cleansing costs would have been significant."

Gius says that the build-vs.-buy decision should be made on a case-by-case basis but that more complicated applications generally should be purchased. "In the case of a warehouse management system, we would prefer to build on the collective knowledge of vendors and benefit from their software that reflects the sum of all their other customers' needs," he says. "And I'd never build an ERP or an inventory control system or an order fulfillment system. There's enough competition in the marketplace now that I'd be comfortable we could get a reasonable price."

Subjective evaluation criteria should be supplemented with more rigorous financial analyses, says Gius. Cardinal evaluates projects based on a number of metrics, including return on investment and discounted cash flow [QuickLink 46832]. "It's evolved more of an economic value-added model to take into account the weighted cost of capital," he adds.

It All Depends

IT executives generally say it makes little sense to develop your own commodity, or utility, system, such as payroll or general ledger. But one company's utility can be another's strategic asset. Choice Homes Inc., a \$750 million house-builder in Arlington, Texas, chose to develop its own suite of accounting systems—general ledger, accounts payable and accounts receivable—even though many mature commercial choices are available. It was the only way to get the extremely flexible reporting necessary to satisfy the needs of autonomous, remote construction managers, says CIO Andrew Brimberry.



"I actually believe that our general ledger does give us a competitive advantage, because we can close our books at the end of the month in two days and at the end of the year in four days," Brimberry says. "So we know very quickly what money we are making and where we need to adapt."

It's even possible, he says, to look at profit and loss data in the middle of the month at various levels, all the way down to a single house under construction—something he says commercial packages can't match.

Another bit of conventional wisdom that Brimberry rejects is the notion that by buying software, IT shops can leave the unpleasant support and maintenance chores to the vendor. He says he spends more time fixing his payroll and human resources systems—the only applications he hasn't developed internally—than any others. "Their standards of development aren't as high as [ours]," he explains.

Indeed, for some companies, the ongoing system

costs and maintenance issues are more important than the initial procurement costs. Chris Hjelm, chief technology officer at Chicago-based online travel company Orbitz LLC, developed a contract management system in-house for the bargain-basement price of \$50,000, and he says that supporting it requires just a quarter of one person's time. Because the system is simpler than comparable commercial packages, and because it's better integrated with other Orbitz systems, it's easier to maintain, he says.

And, Hjelm says, for a fast-changing online company like Orbitz, software vendors are just too slow: "Their timelines tend to be measured in six-month to one-year increments at best, but when we do software innovation for our commercial Web site, we do it in two-week increments."

Competitive Advantage

Reinsurance Group of America Inc. in Chesterfield, Mo., developed its own "enterprise administration system" that manages customer data, contracts and policies, calculates premiums and performs other back-office functions. Azam Mirza, vice president of global software, says he would have had to buy six to eight commercial packages to do all of those things.

But an even more important consideration, Mirza says, was that by rolling its own \$35 million system, Reinsurance Group was able to include international functions such as currency conversions and multiple languages. "That's a huge competitive advantage for us," he says. "Everybody in the reinsurance industry is trying to build a global administration system, but they are two to five years behind us."

Mirza rejected the option of working with a software vendor to add global functions to an existing product. "We didn't want to end up with a commercial package that others could buy that we helped build," he says. "It would have been a custom system for us, and then a package for all of our competitors."

VisionQuest National Ltd., which provides intervention services for at-risk youth and has offices in Pennsylvania and Arizona, installed an ERP package but found that its billing module couldn't handle the complex contract and VisionQuest had with its customers. So it hired consultants to help build a billing module compatible with the rest of the ERP package, says Greg Seyk, CIO and vice president for IT.

"They tried to force-fit us into [the package], using a variety of creative approaches, and we just couldn't get it to work," Seyk says. The consultants finally wrote the billing system from scratch, and contract programmers developed a custom child-tracking system as well. Both efforts proved difficult. "We went through two sets of consultants before our third set finally finished the child-tracking system," Seyk says.

Seyk offers this advice to those who decide to develop systems using contract developers: "Qualifying consultants is a huge, huge task. You can get references and do reasonable due diligence, but when the rubber meets the road, the consultants may not have the skills to do the custom programming." ☐ 47884

AN ONGOING DEBATE

The debate over buying off-the-shelf software or building your own IT's version of "Tales from the Crypt" hasn't died about 20 years or so.



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PRUDENT Pruning

Cutting back your systems can keep your IT environment vital and responsive. By Alan S. Horowitz

IT SYSTEMS GROW LIKE KUDZU.

It's "almost an inevitable fact of IT," says Tony Iams, an analyst at D.J. Brown Associates Inc., a technology research firm in Fort Chester, N.Y. And once built or bought, systems tend to stay around by default. "Administrators are afraid of getting rid of things," says Randall Palm, director of IT at IT trade association CompTIA. "We've all learned the hard way not to unplug a server we think isn't being used."

But smart CIOs know that unchecked growth can lead to duplication and sluggish performance, while prudent pruning can keep an IT environment vital and responsive. Here are 12 telltale signs that it's pruning time:

1 Your system limits you. If old applications keep you from re-engineering your business processes to keep ahead of the competition, it's time to prune, says David Sommer, vice president of e-commerce at Oakbrook Terrace, Ill.-based CompTIA. He tells of one company whose wide variety of

systems made it too inflexible to interface with its customers for business-to-business e-commerce. That convinced the IT group to start pruning.

2 The technology has seen better days. "The application may be great, but the technology is dying," says Art Data, vice president of IT at International Truck and Engine Corp. in Warrenville, Ill. Sure, everyone loves the old word processor, but if it runs only on DOS, move on.

3 Duplicate systems serve no purpose. "How many image processing systems do I have? Why is that?" asks Data. If your company has lots of autonomous business units, duplication is justifiable, but generally, duplicate systems should be deleted.

4 Applications are underused. Look for applications in your portfolio that are occupying space but not being used, says Byron Miller, an analyst at Forrester Research Inc. in Cambridge, Mass. Also, ask, "How much is it being used?" says Eric Goldfarb, CIO and executive vice president at PRG-Schultz International Inc., a recovery auditing company in Atlanta. You might find that changes in business processes have made some functions or applications obsolete.

5 Users only think they need it. Trust users, but verify. Goldfarb once worked at a company that generated 1,200 reports. Asked which were really needed, users vowed for virtually all of them. So Goldfarb took away access to all the reports and waited for users to complain. Mostly, they didn't, and he trimmed 1,200 reports to 100.

6 You can't upgrade. "Systems that are too complex to upgrade generally fall out of favor," says Iams. If you have some systems you can't get up to speed, pull out the shears.

7 You're forced to upgrade. Tom Pratt used to try to keep old systems running for as long as possible, but he found they would invariably fail at critical times, forcing him to upgrade even though he would have preferred to replace them. Now Pratt, an IT manager at Coastal Transportation Inc., a common carrier in Seattle, has stopped trying to keep struggling systems alive. He prunes them and buys something new.

8 The vendor doesn't support the system. "A good indication that it's time to retire a system is when

the components are no longer supported by the vendors who produce them," notes John Montgomery, chief technology officer at Ensharadens Systems Corp. in Oakland, Calif., which provides software for seaports.

9 The system is unassigned. If the old system just doesn't fit with re-engineered business processes, it's time to prune, says Sommer.

10 The cost of ownership is too high. The ongoing costs of a "bargain" system can be more than they're worth. "Most companies look at what [an application] cost initially," says John Parkinson, chief technologist for the Americas region of Capgemini, a consulting and systems integration firm. "The cost of owning should be based on the cost of keeping [the system] running."

11 The system is inconvertible. Have a three-year plan, and get rid of the systems that are least cost-effective and most difficult to integrate into that plan, says CompTIA's Palm.

12 You've added a new system. Establish a strategy that requires taking away a system for each one you add, says Parkinson. "After a couple of cycles of this, you can really start attacking" the kudzu growth, he says. "It really works."

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Horowitz is a freelance business and technology writer in Salt Lake City. Contact him at alan@ahorowitz.com.

Pruning Tips



ThinkTank

Camera Phones Become an IT Issue

haven't been a huge success. IDC estimates that more than 600 million will be in use by 2007—because people can easily send and receive snapshots.

What does this have to do with corporate IT? Plenty, according to an article in *Accenture Ltd.'s* online journal *Outlook*. Peter of View. Researchers Andrew Fano and Anatole Gershman at Accenture Technology Labs say that as people grow comfortable using camera phones, they'll begin to use them to interact with businesses. So customer contact centers will need to be able to handle incoming instant photos.



"Instead of trying to describe an object using words, consumers will send snapshots," the authors say, which will give a service agent a better idea of the customer's needs. A customer can send a picture of the environment in which the product will be used, such as a yard, room, office or workshop, which can help the service agent sell the right products. A series of photos (or a short video) could even capture how a customer is using or assembling a product, so the agent could correct or train the customer on the proper procedure. Consumers could also use camera phones to document damage or repairs.

But managing this influx of images will require "a substantial redesign of customer service processes and systems," the researchers predict. — Mitch Blets

Best Bits

The most useful parts of recent business and IT management books

Information Nation, Seven Keys to Information Management Compliance, by Randolph A. Kahn and Ron, by T. Blair (ACIM, 2004).



I'm not sure about the appropriateness of the title *Information Nation*, but this is an eye-opening book about the legal

issues of information and e-mail management. Did you know that a voice-mail message from a federal regulator could be a vital record that should be preserved? Did you know that an instant message about a business contract might need to be retained for legal purposes? Before you give a place over at the word legal, consider that millions of records destruction, mismanagement and falsification have brought down huge corporations like Enron and Andersen. And that's why we have Section 802 of the Sarbanes-

Oxley Act, which states: "Whoever knowingly alters, destroys, mutilates, conceals, covers up, falsifies or makes a false entry in any record... with the intent to... obstruct [a federal investigation]... shall be fined, imprisoned not more than 30 years, or both." Suddenly, records management seems important!

This book is a practical guide—full of checklists and sample policies—to "help keep your company out of hot water." And that seems like something a chief information officer ought to do. — Mitch Blets

Too Many Chiefs?

Chief financial officers are fine. So are chief legal officers and chief administrative officers. But some companies are going too far by adding more CXOs to the organizational chart, says David Silverstein, president and CEO of Breakthrough Management Group Inc. in Louisa, Colo. He draws the line at the trend toward having a chief risk officer and a chief ethics officer. Those roles should be squarely on the shoulders of the CEO, Silverstein says, because delegating them to another chief

sends bad signals to employees and shareholders.

What about the CIO? Silverstein says the IT chief is here to stay and will become even more important as the CIO evolves to become the "systems architect of the business" and the "master of information flows." — 48239

Data Dive

Here's why you need a data clearing effort. On a typical morning between 9 and 11 o'clock.

- firms may move
- businesses will change their phone numbers
- companies will change their names
- businesses will shut down
- firms will file a bankruptcy petition
- company will change ownership

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The IT Economy

■ IT spending is "stuck in first gear," according to a report by The Goldman Sachs Group Inc. in New York. After months of steadily more optimistic reports, a June survey of 100 CIOs shows that their capital spending forecasts for 2004 have flattened out at 2.5% growth. The analysts note that there's a widening gap between the CIOs' spending plans and Wall Street's consensus 9.5% revenue growth forecast for IT vendors—a sign that Wall Street may be too optimistic about the tech recovery. The top spending priority in the June survey was security software, unchanged from the April survey. CIOs seem to be "content with what is currently on their plate, reminding us that there's not yet a new 'must have' technology that is meaningfully changing the 'to do' list," the report concludes.

Ups and Downs

Which IT services providers are gaining or losing a share of your IT spending dollars?

GAINING

IBM
Capgemini Technology Solutions Corp.
Wipro Ltd.
Tata Consultancy Services

LOSING

Accenture Ltd.
Electronic Data Systems Corp.
Computer Sciences Corp.

Source: TQM magazine's Future 1000 companies list, which ranks the top 1,000 IT services providers.

Security Plans

Which types of network security products do you plan to buy in the next 12 months?

Antivirus	60%
Firewall	47%
Monitoring	45%
Intrusion detection	38%
Identity management	24%
Bioterrorism	17%

Source: TQM network security publications in U.S. businesses with more than 100 employees, which represent almost 90% of all U.S. business revenue.

Career Watch

NUMBERS WORTH NOTING

Four out of 10 companies expect to increase hiring between now and the end of the year, according to a June 2004 survey of 104 member companies conducted by the National Association for Business Economics.

Six out of 10 CEOs say their companies don't account for workforce aging in their long-term business plans, according to the Society for Human Resource Management.

The fastest-growing segment of the workforce is the 55-to-64-year-old segment, according to the U.S. Bureau of Labor Statistics. The number of workers between 35 and 44 years old is declining by 10% annually.

The 25-to-34-year-old segment of workers is growing at 8% annually, according to the Bureau of Labor Statistics.

Finda Beck

IT Executive vice president, operations

COMPANY: EarthLink Inc., Atlanta

Q&A

WHAT SHE DOES

Over the course of her 20-year career in IT, Finda Beck, who started out as a computer programmer and now holds the top-ranking IT post at EarthLink, has been an avid mentor to other women in IT. Funder, Weiner, she says, make natural and standout managers in technology organizations because of their much-practiced communication and people skills. Prior to joining EarthLink, Beck managed engineering and technology organizations at Sybase Inc., QTE Corp. and Amnahl Corp.

Statistics show that women are less attracted than men to IT careers. Why is that? When choosing a major in college, a lot of women look just at the entry-level positions [available after graduation]. They don't see past software engineering and coding and sitting at a computer all day to the more interesting IT roles, such as project manager, where you interact with people.

How can CIOs and IT recruiters attract more women to IT careers? By changing the nature of entry-level jobs. A lot of companies just program-

mer and network engineer positions as entry-level jobs and assume that all management opportunities will grow out of these jobs. If you think more creatively about how you put together career paths, you can come up with different entry points, like associate project manager and other roles that are more appealing to women at the entry level.

Are you saying that women prefer IT roles that involve more communication and interaction?

That was certainly the way I felt. I started out in a programming role where I wasn't interacting with anyone or anything but a computer. I didn't enjoy that. I liked it much better when I moved on to more coordination and integration-oriented roles. I think women do a better job in a lot of the technology management roles because those roles require good communication, mediation and facilitation skills, and lots of women do all of these things all of their lives in their families.

What's your advice to women who are looking to move up in their IT careers?

Don't have really rigid expectations about how your career path should progress. Migrate toward the things you're good at and volunteer to do them. I volunteered for jobs nobody else wanted, like integration jobs, and I moved up from there. I found it pretty easy to move up because there is such a shortage of people in very technical positions, who want to manage and are good at managing. There's also a confidence thing. Women in IT communication style tend not to take credit for things. In IT, a lot of times you're the only woman in the room and you have to be confident in what you're saying and not be intimidated. **48230**

—Julia King

CIOs and CFOs: Can We Talk?

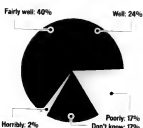
How would you describe the communication between your CIO and/or CTO and your company's CFO?



Base: 515 executives

Source: 2004 Survey of CFOs and CIOs/CTOs

How well does your CIO/CTO sell technology projects to financial managers?



Base: 515 executives

Source: 2004 Survey of CFOs and CIOs/CTOs

Exec Talent Search

What will be the most important attribute looked for an executive to be successful over the next five years?



Base: 337 human resources executives

Source: 2004 Survey of CFOs and CIOs/CTOs

ThinkTank

BRAIN FOOD FOR IT EXECUTIVES

Camera Phones Become an IT Issue

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book about the legal issues of information and e-mail management. Did you know that a voice-mail message from a federal regulator could be a vital record that should be preserved? Did you know that an instant message about a business contract might need to be retained for legal purposes? Before your eyes glaze over at the word legal, consider that allegations of records destruction, mismanagement and falsification have brought down huge corporations like Enron and Andersen. And that's why we have Section 802 of the Sarbanes-

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GAINING

1.
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LOSING

1.
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3.

Career Watch

Four out of 10 management experts expect to become happy between now and the end of the year, according to a June 1994 survey of 104 business companies conducted by the National Association for Business Executives.

Six out of 10 managers say their companies don't allow for workload spikes that keep them in overtime plans, according to the Society for Human Resource Management.

The fastest-growing segment of the workforce is the 15- to 24-year-old segment, according to the U.S. Bureau of Labor Statistics. The number of workers between 15 and 24 years old is declining by 15% annually.

The 25- to 34-year-old segment of workers is growing at 8% annually, according to the Bureau of Labor Statistics.

Q&A

Q: I've been in IT for 10 years and I'm still not making much money. I'm a network engineer and I'm not sure if I should stay in IT or move to a different field. What do you think?

A: It's hard to say. Network engineering is a good field, but it's not as glamorous as it once was. If you're not enjoying it, it might be time to look for a new challenge. There are many other fields in IT, such as software development, systems administration, and project management. If you're interested in one of these, you might want to consider a career change. However, if you're just looking for a better salary, you might want to stay in IT and look for a new employer. The IT industry is still growing, and there are many opportunities for advancement.

Statistics show that women are less attracted than men to IT careers. Why is that? When choosing a major in college, a lot of women look just at the entry-level positions [available after graduation]. They don't see past software engineering and coding and sitting at a computer all day to the more interesting IT roles, such as project manager, where you interact with people.

How can CIOs and IT recruiters attract more women to IT careers? By changing the nature of entry-level jobs. A lot of companies post program-

mer and network engineer positions as entry-level jobs and assume that all management opportunities will grow out of these jobs. If you think more creatively about how you put together career paths, you can come up with different entry points, like associate project manager, and other roles that are more appealing to women at the entry level.

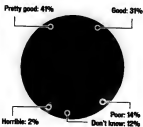
Are you saying that women prefer IT roles that involve more communication and interaction? That was certainly the way I felt. I started out in a programming role where I wasn't interacting with anyone or anything but a computer. I didn't enjoy that. I liked it much better when I moved on to more coordination and integration-oriented roles. I think women do a better job in a lot of the technology management roles because those roles require good communication, mediation and facilitation skills, and lots of women do all of these things all of their lives in their families.

What's your advice to women who are looking to move up in their IT careers? Don't have really high expectations about how your career path should progress. Migrate toward the things you're good at and volunteer to do them. I volunteered for jobs nobody else wanted, like integration jobs, and I moved up from there. I found it pretty easy to move up because there is such a shortage of people in very technical positions who want to manage and are good at managing. There's also a confidence thing. Women, in their communication style, tend not to take credit for things. In IT, a lot of times you're the only woman in the room and you have to be confident in what you're saying and not be intimidated.

—Julie King

CIOs and CFOs: Can We Talk?

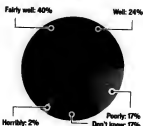
How would you describe the communication between your CIO and/or CTO and your company's CFO?



Base: 157 U.S. executives

SOURCE: EYSTER CONSULTING
ARLINGTON, MASS., JULY 2004

How well does your CIO/CTO sell technology projects to financial managers?

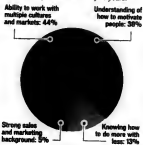


Base: 157 U.S. executives

SOURCE: EYSTER CONSULTING
ARLINGTON, MASS., JULY 2004

Exec Talent Search

What will be the most important attribute needed for an executive to be successful over the next five years?



Base: 332 business executives from leading colleges

SOURCE: EYSTER CONSULTING, JULY 2004; SAN FRANCISCO; MAY 2004

EXEC TRACK

St. John Joins 3Com Board

JULIE ST. JOHN has joined 3Com Corp.'s board of directors. She will also serve as the company's audit and finance committee. St. John is currently executive vice president and CIO for the Enterprise Systems and Operations division at Washington-based Fannie Mae. Mariborn, Mass.-based 3Com makes voice and data networking products.

CA Names Kern CIO, Senior VP

KEVIN KERN has been named senior vice president and CIO at software maker Computer Associates International Inc. in Ithaca, N.Y. Kern is responsible for CA's global IT, including systems and applications, data centers, internal help desks and desktop support. He previously served as vice president for managed services design and delivery at Hewlett-Packard Co. and before that was CIO for Compaq Computer Corp.'s Europe, Middle East and Africa organization.

Rainmaker Taps Schork to Lead IT

LARRY W. SCHORK has joined Rainmaker Systems Inc. as vice president of technology. Previously, Schork was vice president and general manager of IT at Loudcloud Inc. and CIO at Metri-com Inc. and Rational Software Corp. Scotts Valley, Calif.-based Rainmaker provides outsourced sales and marketing services.

Vetrano to Head Cosi IT Operation

JOE VETRANO will join Cosi Inc., a New York-based restaurant chain, as vice president for IT. He will be responsible for aligning Cosi's IT infrastructure with its growth plans for both corporate and restaurant systems. Previously, he served as CIO at S.C. Johnson & Son Inc.

Questions Trump Answers

PAUL GLEN

INFORMATION TECHNOLOGY people tend to be answer people. When users, managers, family members or even random people from the Internet have questions, we're right there with the answers, because we're always the smart people.

One of the first things we learn in school is that being smart means having the answers. The teacher asks the class a question, and the smart kids reach for the sky. But just having a hand in the air isn't enough. To become known as the smartest of the smart, you've got to get that hand up faster than anyone else. It's the original arms race. (We all know how popular this made us.)

And that lesson gets reinforced throughout life. The questions keep coming, and we are rewarded for answering correctly. There are quizzes, exams, word problems, standardized achievement tests, PSATs, SATs, GMATs and job interviews — each one reinforcing the notion that being smart means answering correctly. Eventually, we enter the workforce, and when the boss asks, we answer. Our peers query, and we reply. The better our responses, the better our raises, the more impressive our titles and the more sincere the admiration of our peers.

But as often happens, those things that we do to get ahead eventually fail to serve as well. What makes us successful at one level limits our progress at the next. So it is with questions. At some point, just answering them is insufficient to make collective projects successful and individual careers soar. This happens for a couple of key reasons.



As we move higher in the organization, we begin to grapple with questions that have no correct answers. Being smart isn't enough. It becomes more important to evaluate the validity of competing responses than to find a correct one.

But beyond that, it's even more important to find the right questions than it is to find the best answers. Great answers to unimportant questions are still unimportant.

Successful groups grapple with important questions, not trivial ones. IT

projects and organizations are very sensitive to the quality of the questions that are asked. If the questions you examine are even slightly less important than the ones you should be considering, your results may be dramatically poorer than you might expect.

Many IT projects remind me of one of my favorite scenes from the old Pink Panther movies that starred Peter Sellers as the bumbling Inspector Clouseau. At one point in *The Pink Panther Strikes Again*, Clouseau sees a small dog and asks the nearby hotel clerk, "Does your dog bite?"

"No," replies the clerk. Clouseau bends down to pet the dog and is immediately bitten by the snarling mutt. Clearly upset, he turns to the clerk and exclaims, "I thought you said your dog did not bite!" "That is not my dog," the clerk

replies dryly. Accurate responses to the wrong questions often lead us astray.

Every project begins with a series of unanswered questions. So how do you know if you're doing a good job with yours? Here are a few of my rules:

1. Prioritize your questions. Not every question requires or deserves a response. Ask and grapple with the most important ones first. Good risk management demands that you handle the most threatening things first, and fundamental questions are usually more important than nitty-gritty, detailed ones.

2. Why questions should precede what, how, who and when questions. If you look at your priority list of open questions and most of the top ones start with words other than why, you may be starting at the wrong place. Never assume that you know why a project is important. Way too many projects deliver great technical solutions to low-priority problems just because someone requested it and no one asked why.

3. If your questions come with multiple-choice answers, make sure you have included a complete array of choices. One of the most powerful ways to control a conversation and limit creativity is to pose multiple-choice questions with constrained responses. When we see a menu, we naturally assume that it includes all possible choices. Rarely is that true.

If you want to further your career and make your organization more successful, start thinking more about asking good questions rather than offering great answers. Your influence will expand, and you can demonstrate something more important than smarts. You can display wisdom.

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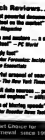
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